MANAGING DROUGHT

IN THE SOUTHERN PLAINS

June 14, 2012

Webinar Format

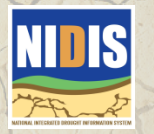
- 2nd and 4th Thursdays of each month at 11:00 a.m. Central Time
- Overview of regional drought conditions and outlook for next several weeks to months
  - led by the Drought Monitor authors
- Discussion Topic
  - Alternating between a focus topic, and a shortened briefing of current conditions
- Comments & Updates from State Climatologists
- Open-ended time for questions and comments
- Total Time Commitment: 30 minutes for presentations, as much time as needed for discussion
- Past webinars, summaries, and Federal/State Assistance links posted on the U.S. Drought Monitor, http://www.drought.gov in the Southern Plains Region. Webinars posted on Youtube: http://www.youtube.com/user/SCIPP01

Regional Drought Monitor Update

Brian Fuchs, Climatologist

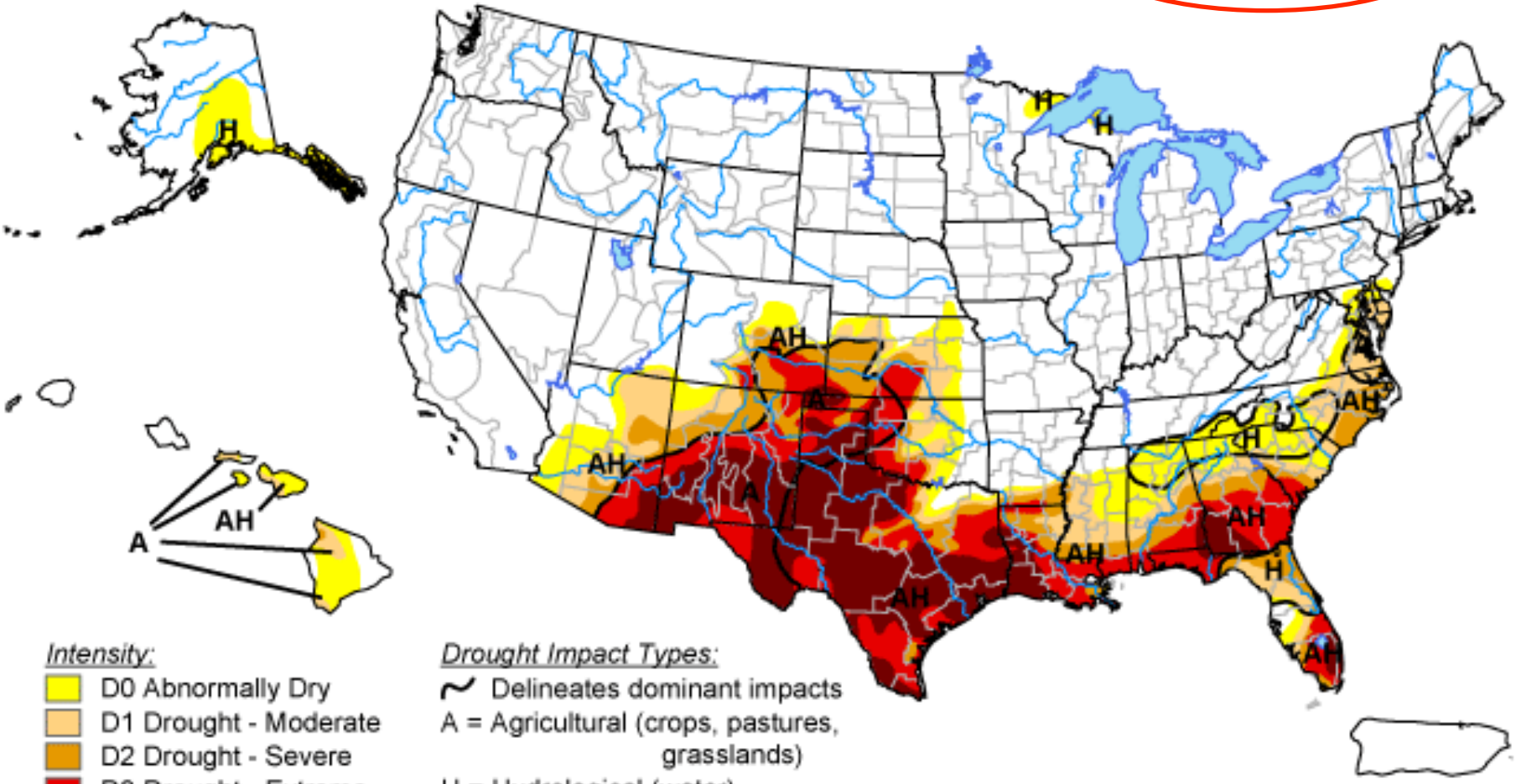
National Drought Mitigation Center
School of Natural Resources
University of Nebraska-Lincoln

SCIPP/NIDIS Drought Webinar Series, June 14, 2012



U.S. Drought Monitor

June 14, 2011
Valid 8 a.m. EDT



Intensity:
- D0 Abnormally Dry
- D1 Drought - Moderate
- D2 Drought - Severe
- D3 Drought - Extreme
- D4 Drought - Exceptional

Drought Impact Types:
- ~ Delineates dominant impacts
- A = Agricultural (crops, pastures, grasslands)
- H = Hydrological (water)

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

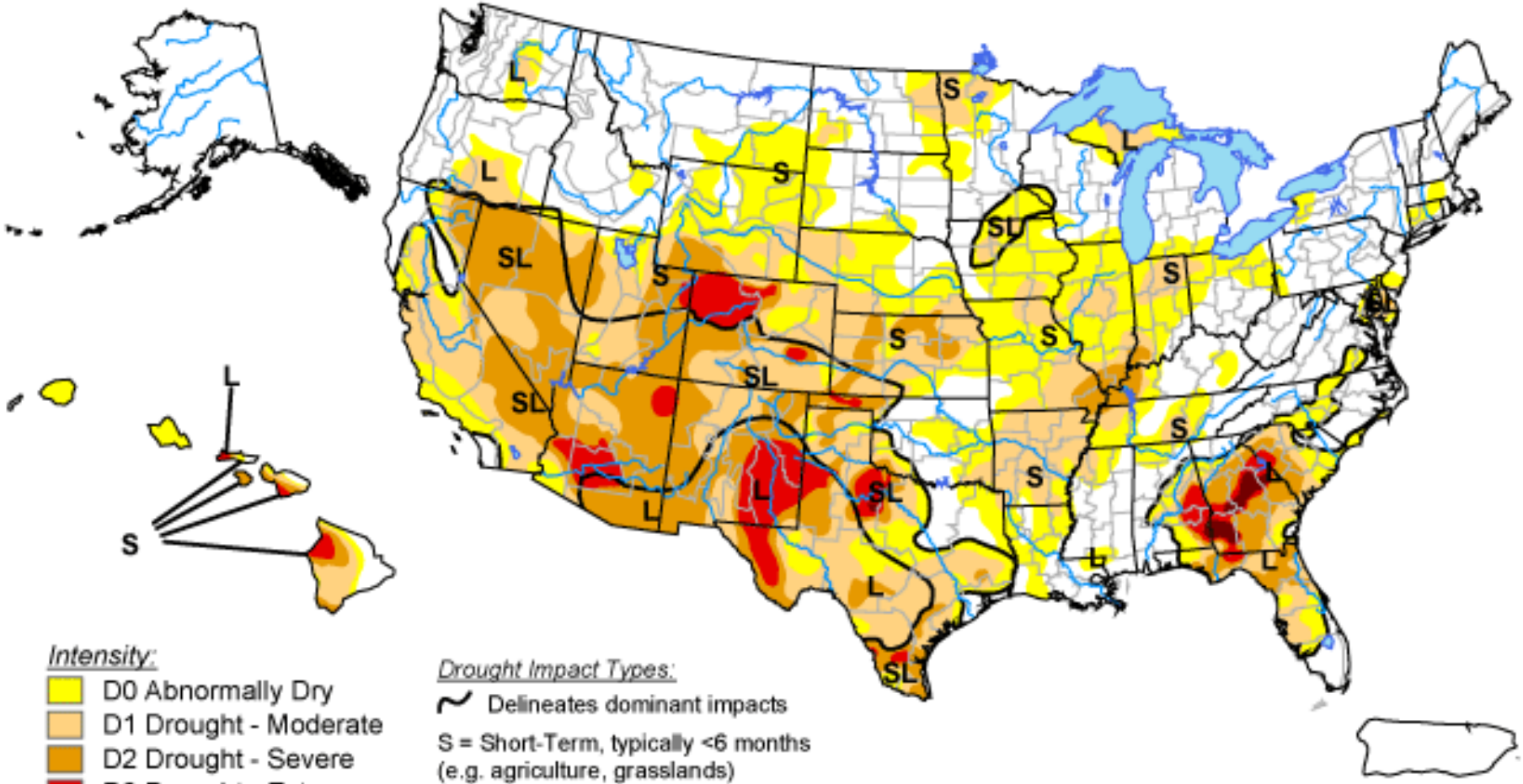
http://drought.unl.edu/dm

Released Thursday, June 16, 2011

Author: Brian Fuchs, National Drought Mitigation Center

U.S. Drought Monitor

June 12, 2012
Valid 7 a.m. EDT



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Drought Impact Types:

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S = Short-Term, typically <6 months (e.g. agriculture, grasslands)

L = Long-Term, typically >6 months (e.g. hydrology, ecology)

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http://droughtmonitor.unl.edu/

Released Thursday, June 14, 2012

Author: David Miskus, NOAA/NWS/NCEP/CPC

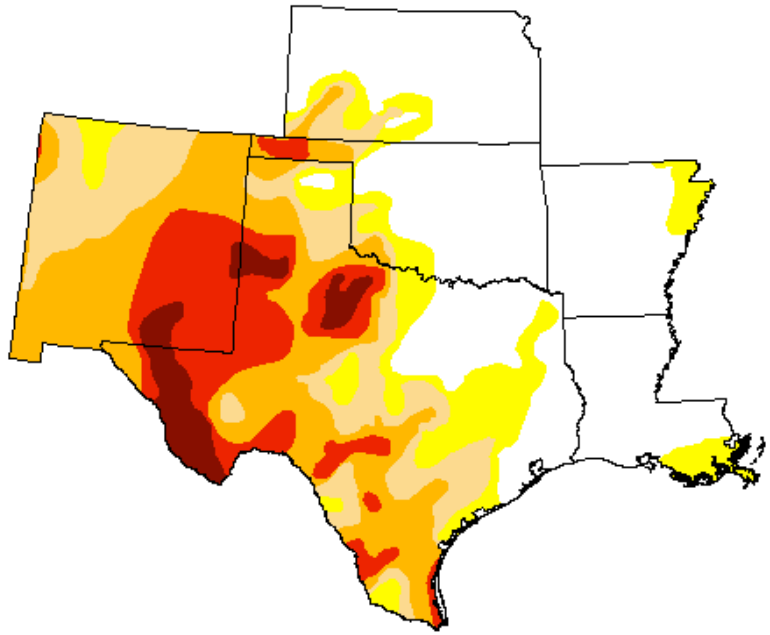
U.S. Drought Monitor

May 10, 2012
Valid 7 a.m. EST

South Central United States

Drought Conditions (Percent Area)

	None	D0 - D4	D1 - D4	D2 - D4	D3 - D4	D4
Current	39.71	60.29	48.49	34.42	15.33	3.72
Last Week (5/1/2012)	39.19	60.81	46.96	35.06	15.80	5.29
3 Months Ago (2/7/2012)	21.93	78.07	70.73	53.64	31.94	11.58
1 Year Ago (5/3/2011)	10.60	89.40	83.35	71.08	49.80	14.68



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- D4 - Drought Exceptional

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http://droughtmonitor.unl.edu

Released Thursday, May 8, 2012
Matthew Rosencrans,Climate Prediction Center/NCEP/NWS/NOAA

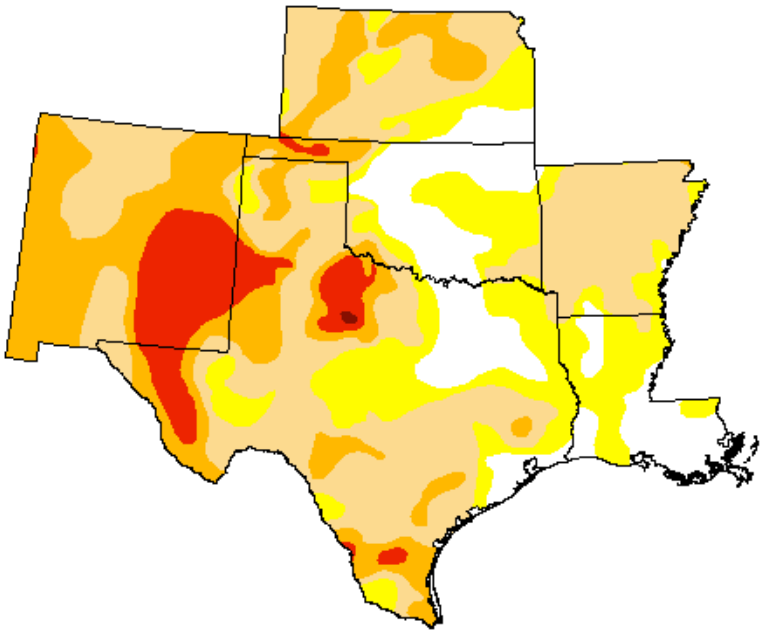
U.S. Drought Monitor

June 14, 2012
Valid 7 a.m. EST

South Central United States

Drought Conditions (Percent Area)

	None	D0 - D4	D1 - D4	D2 - D4	D3 - D4	D4
Current	14.16	85.84	66.05	28.89	8.04	0.06
Last Week (6/5/2012)	7.85	92.15	63.89	26.69	8.66	0.16
3 Months Ago (3/13/2012)	23.71	76.28	64.42	44.53	24.21	10.63
1 Year Ago (6/14/2011)	13.30	86.70	80.18	72.81	60.31	38.71



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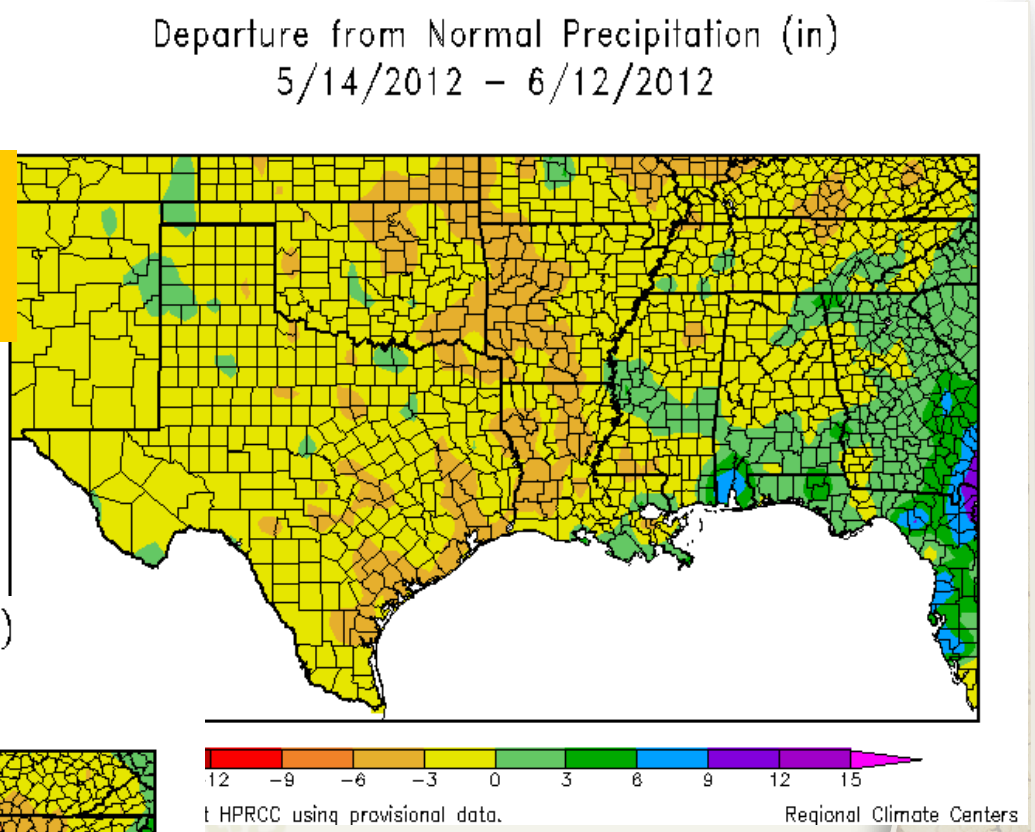
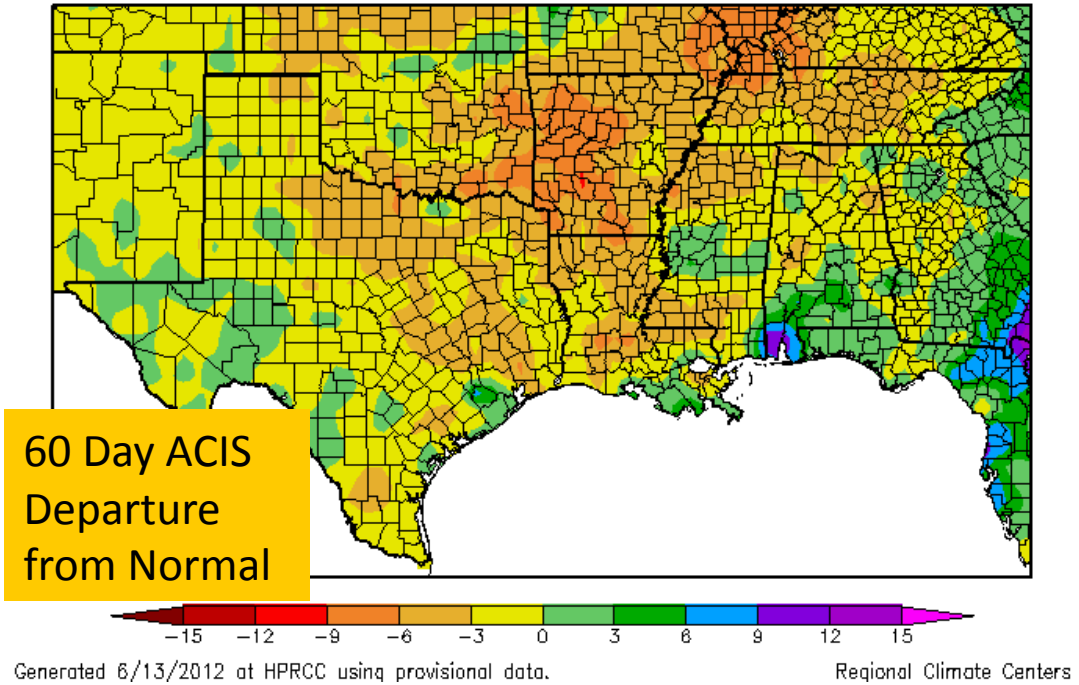
Released Thursday, June 12, 2012
David Miskus, Climate Prediction Center, NCEP/NWS/NOAA

30 Day ACIS Departure from Normal



60 Day ACIS Departure from Normal

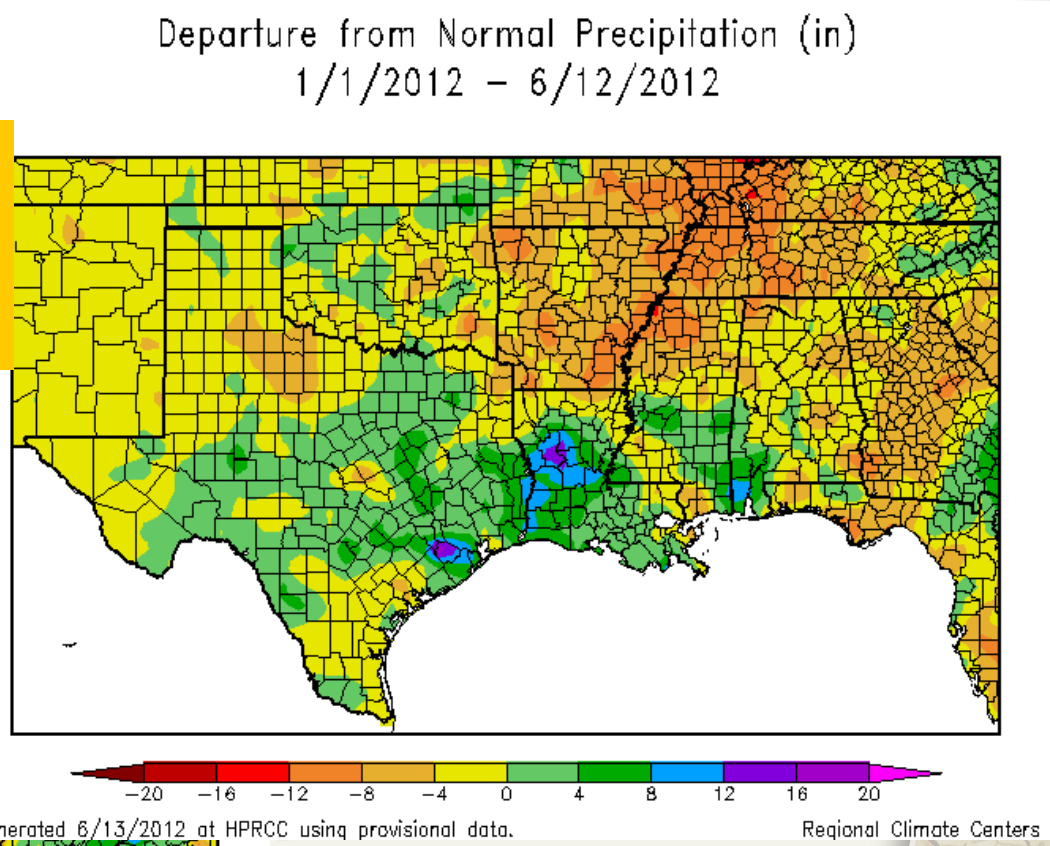


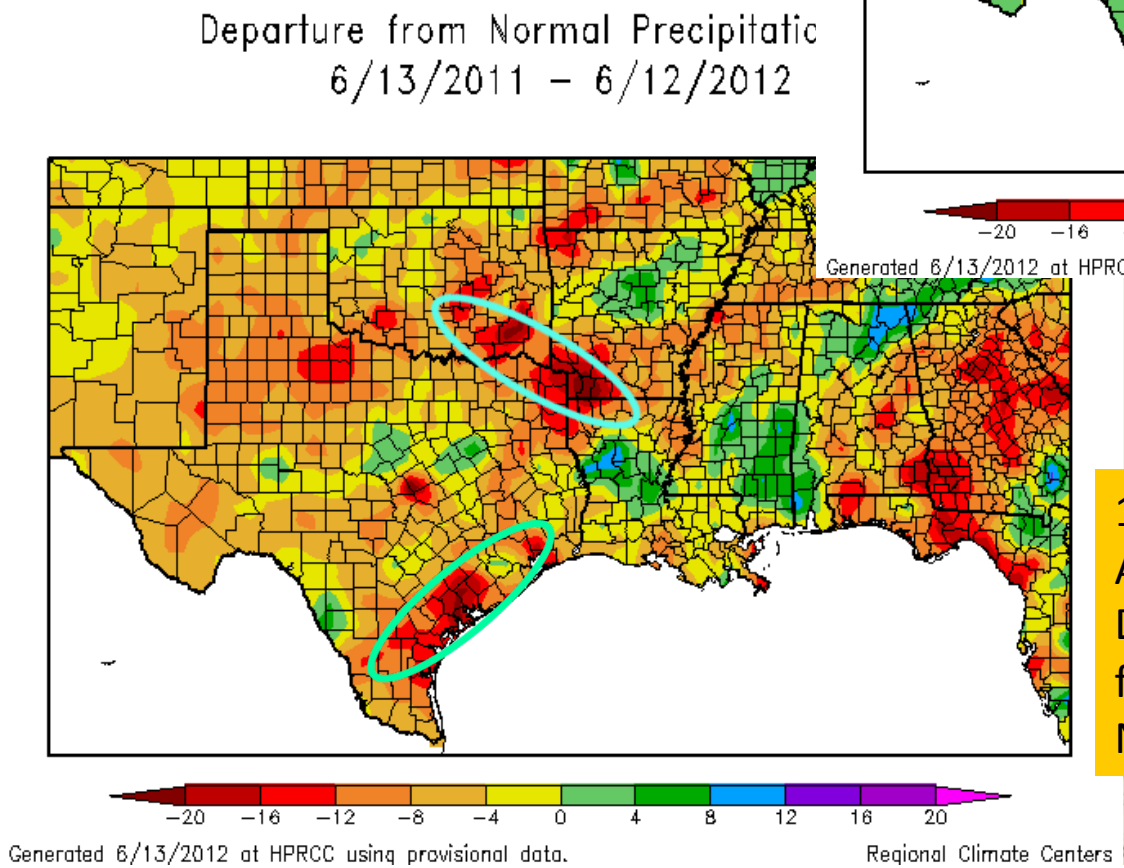
NIDIS

University of Nebraska Lincoln

National Drought Mitigation Center

Year to Date ACIS Departure from Normal





12 Month ACIS Departure from Normal

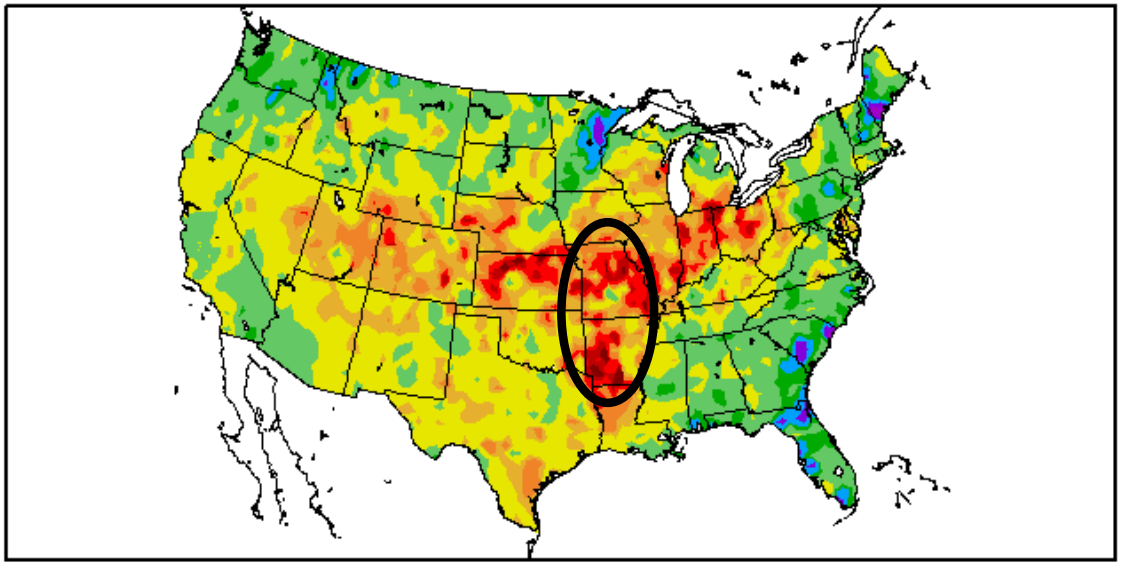
NIDIS

University of Nebraska Lincoln

National Drought Mitigation Center

Short-Term “Flash Drought” developing

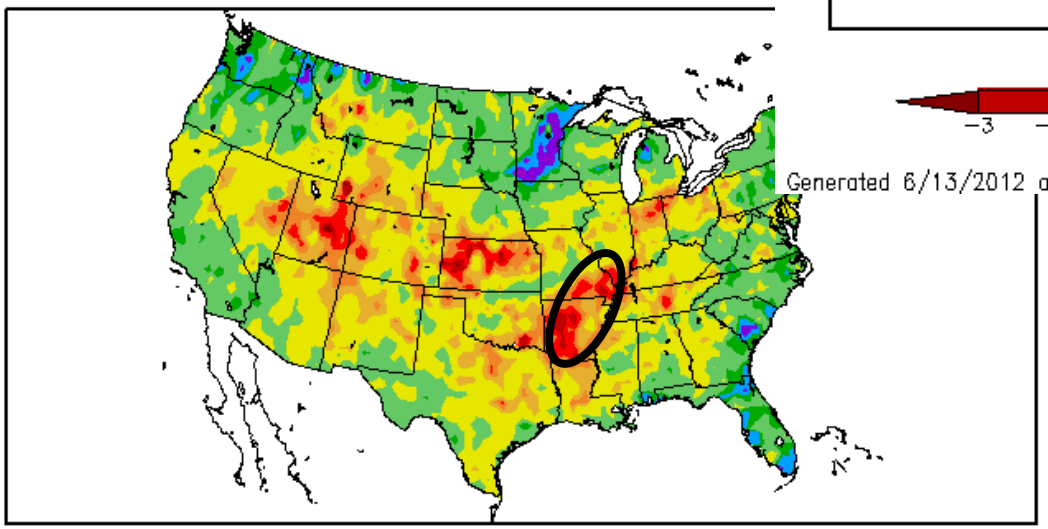
30 Day SPI
5/14/2012 – 6/12/2012



Generated 6/13/2012 at HPRCC using provisional data.

Regional Climate Centers

60 Day SPI
4/14/2012 – 6/12/2012



Generated 6/13/2012 at HPRCC using provisional data.

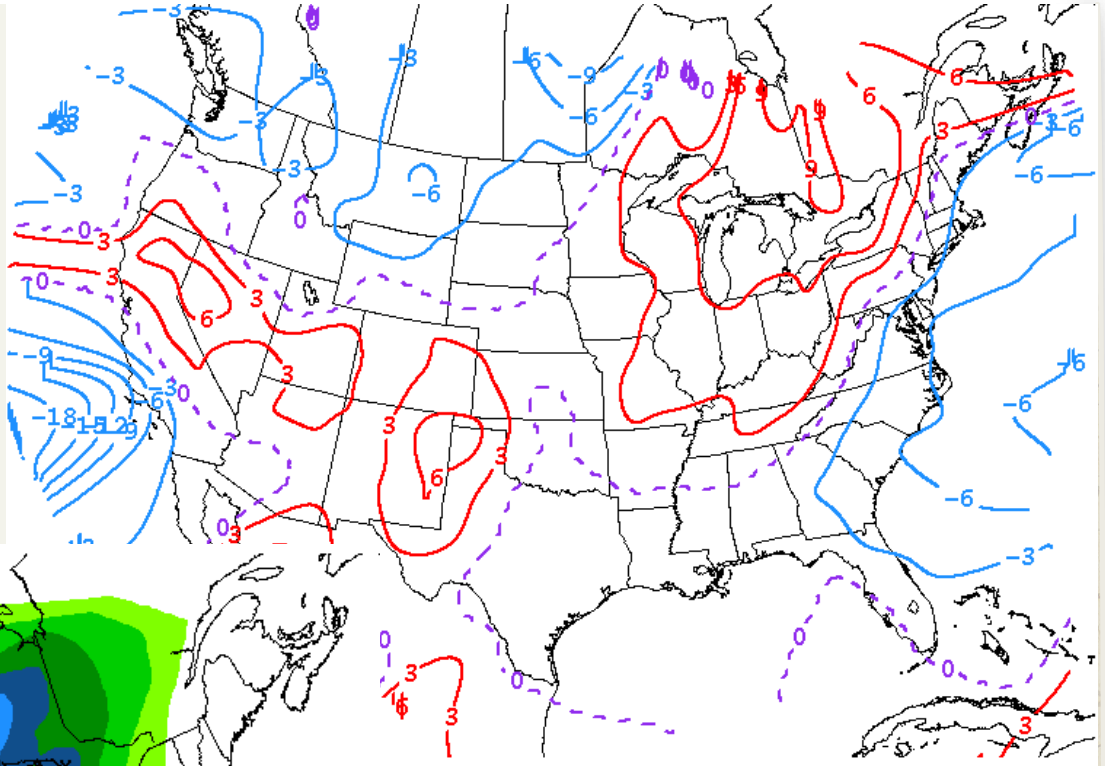
Regional Climate Centers

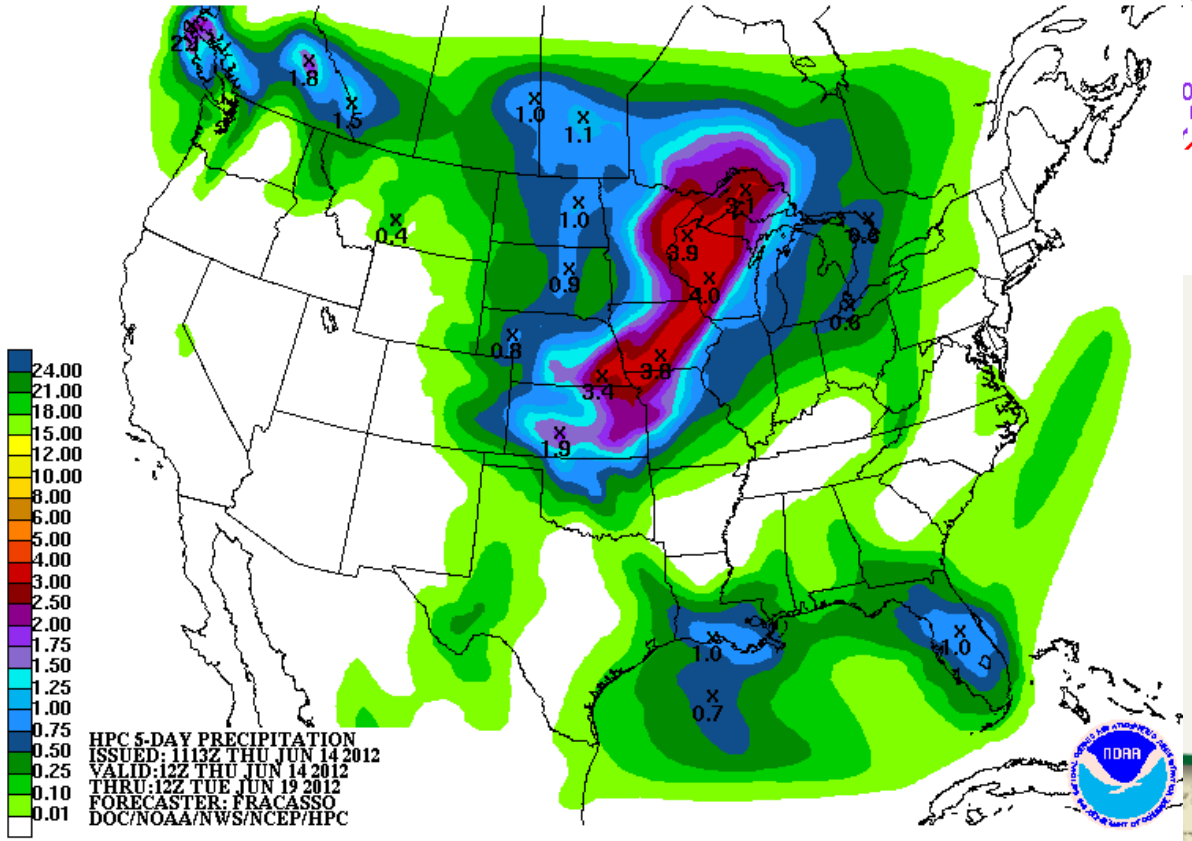
NIDIS

University of Nebraska Lincoln

National Drought Mitigation Center

HPC 5-Day Outlook



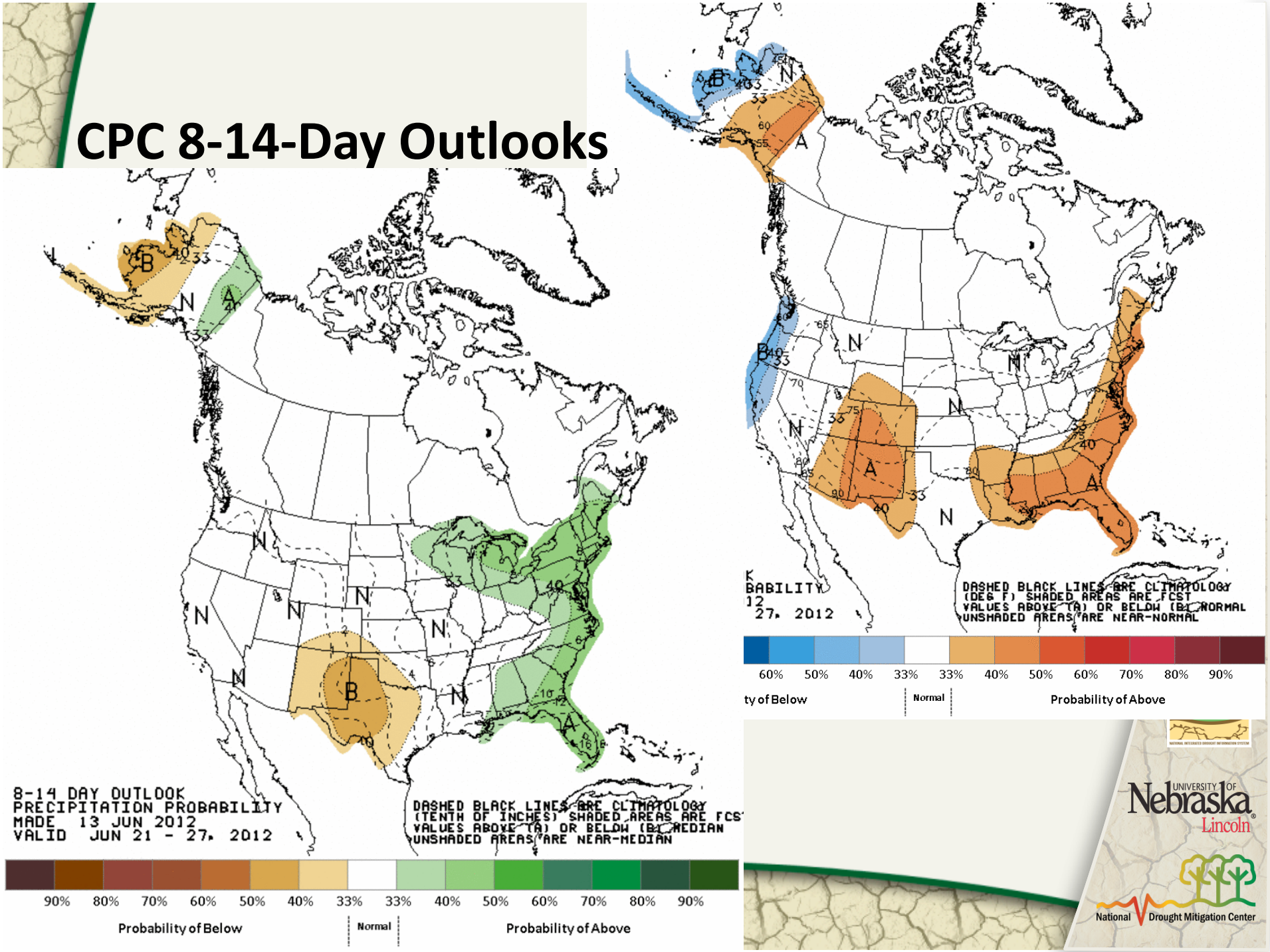


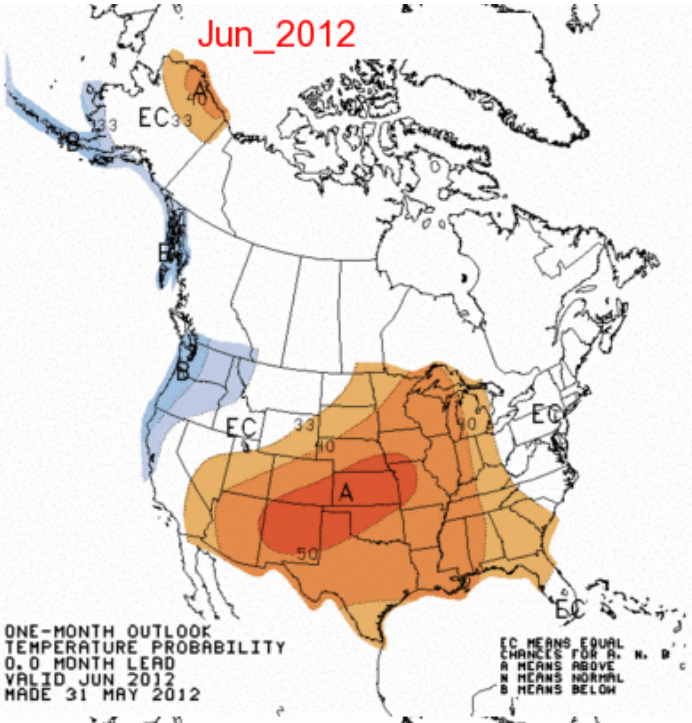
NIDIS

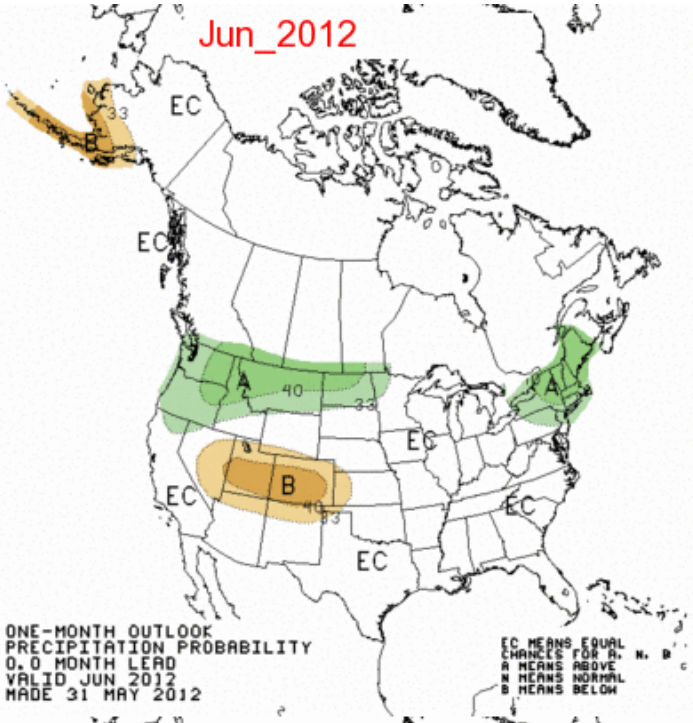
University of Nebraska Lincoln

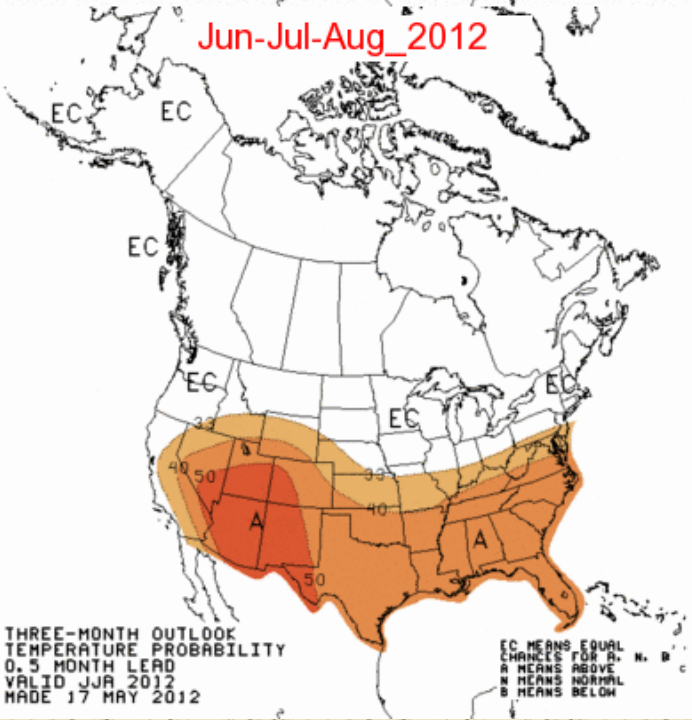
National Drought Mitigation Center

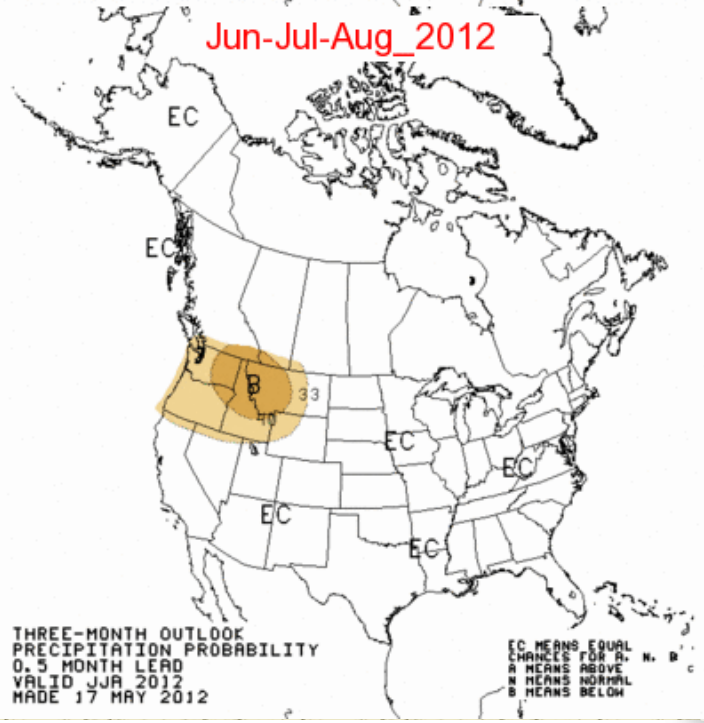
CPC 8-14-Day Outlooks











NIDIS

University of Nebraska Lincoln

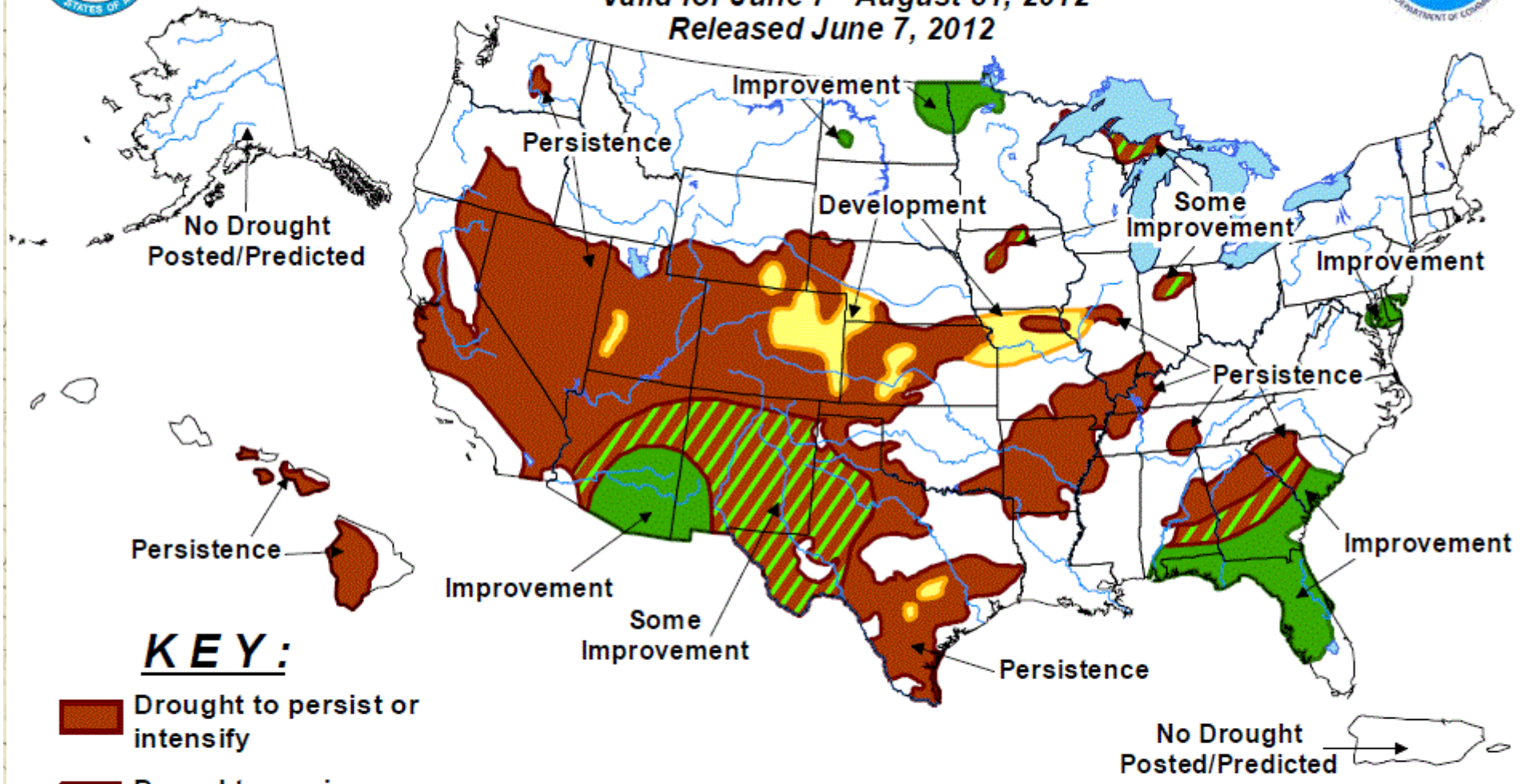
National Drought Mitigation Center

U.S. Seasonal Drought Outlook

Drought Tendency During the Valid Period

Valid for June 7 - August 31, 2012

Released June 7, 2012



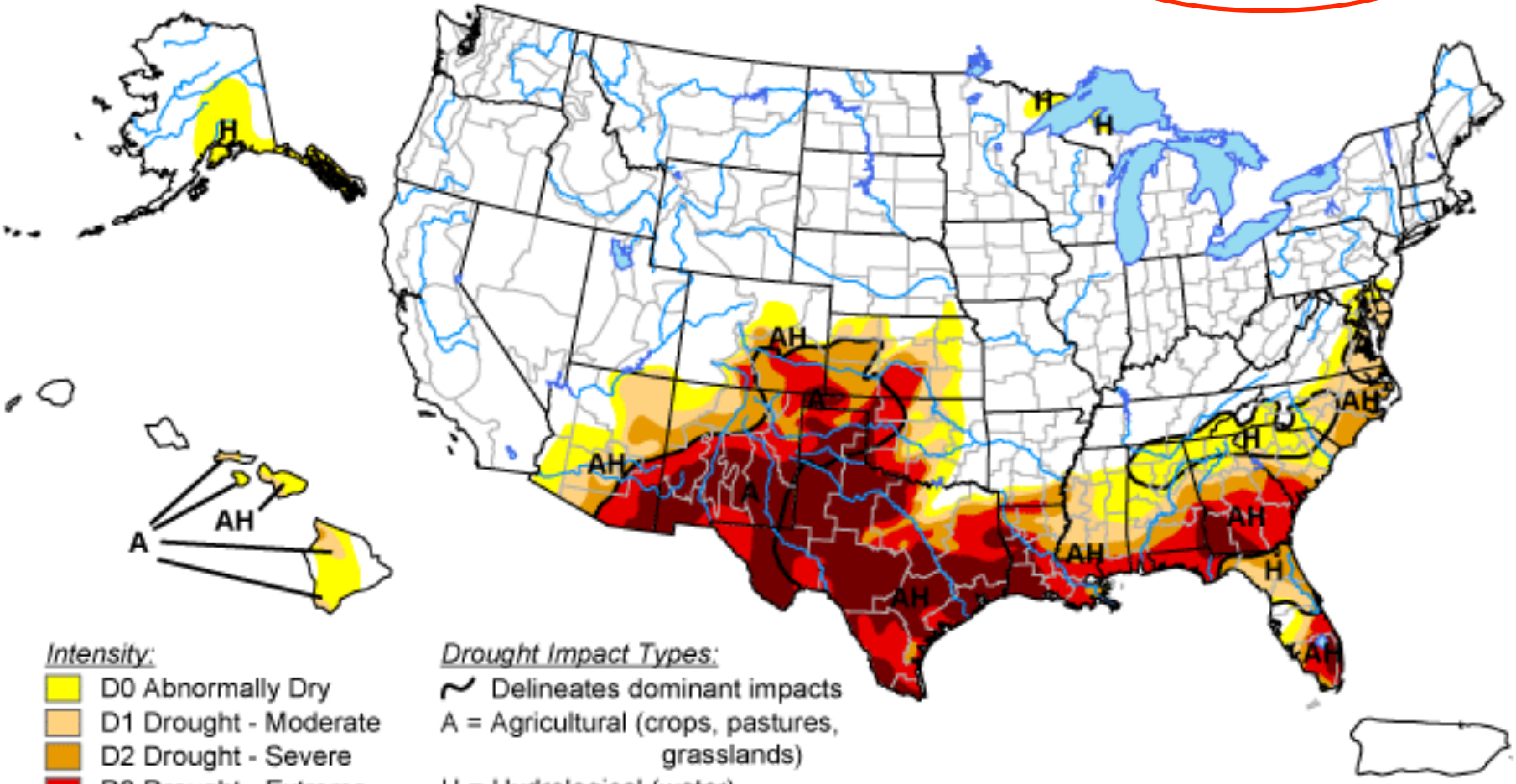
KEY:

- Drought to persist or intensify
- Drought ongoing, some improvement
- Drought likely to improve, impacts ease
- Drought development likely

Depicts large-scale trends based on subjectively derived probabilities guided by short- and long-range statistical and dynamical forecasts. Short-term events -- such as individual storms -- cannot be accurately forecast more than a few days in advance. Use caution for applications -- such as crops -- that can be affected by such events. "Ongoing" drought areas are approximated from the Drought Monitor (D1 to D4 intensity). For weekly drought updates, see the latest U.S. Drought Monitor. NOTE: the green improvement areas imply at least a 1-category improvement in the Drought Monitor intensity levels, but do not necessarily imply drought elimination.

U.S. Drought Monitor

June 14, 2011
Valid 8 a.m. EDT



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Released Thursday, June 16, 2011

Author: Brian Fuchs, National Drought Mitigation Center

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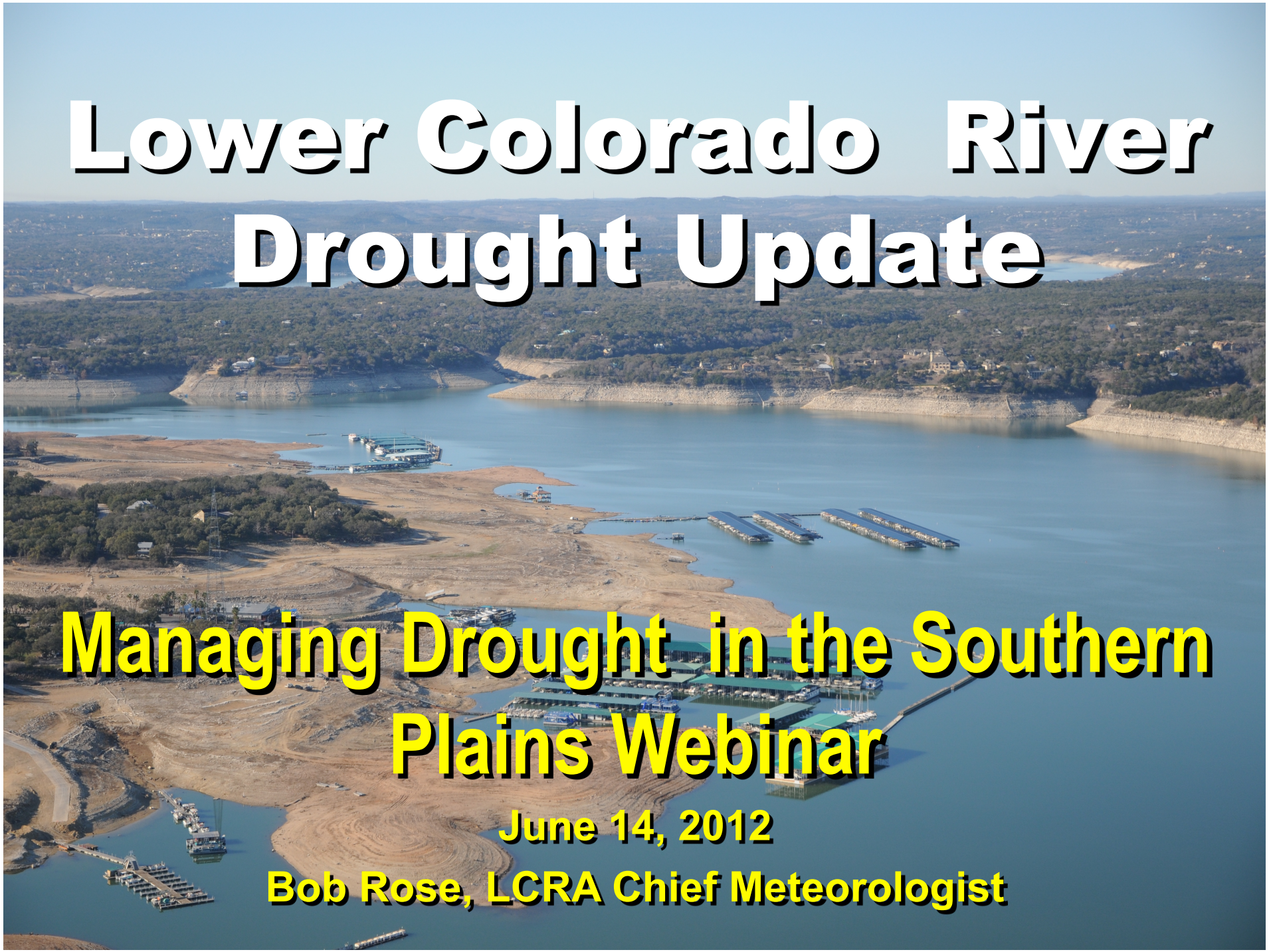


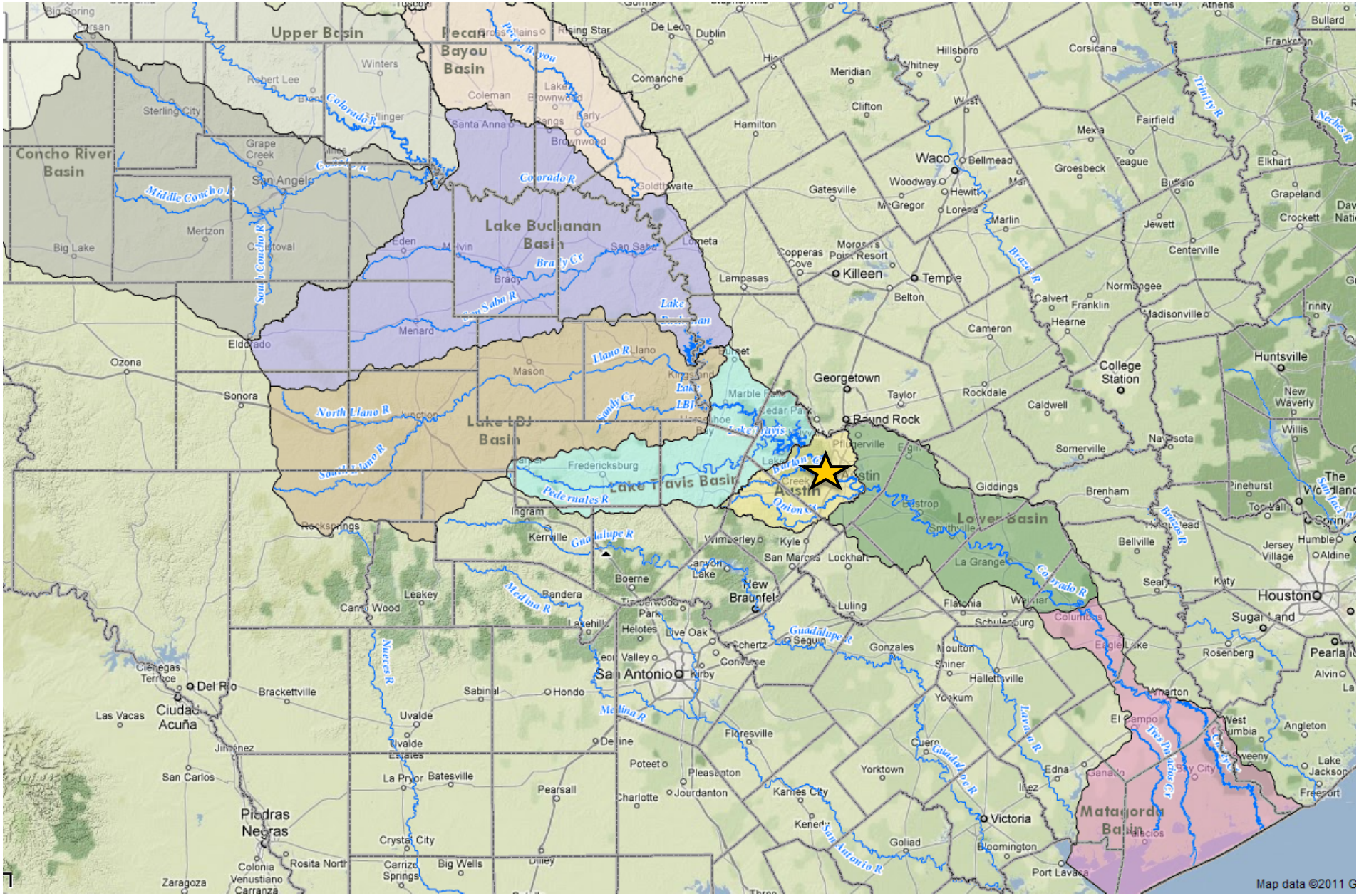
Lower Colorado River Drought Update

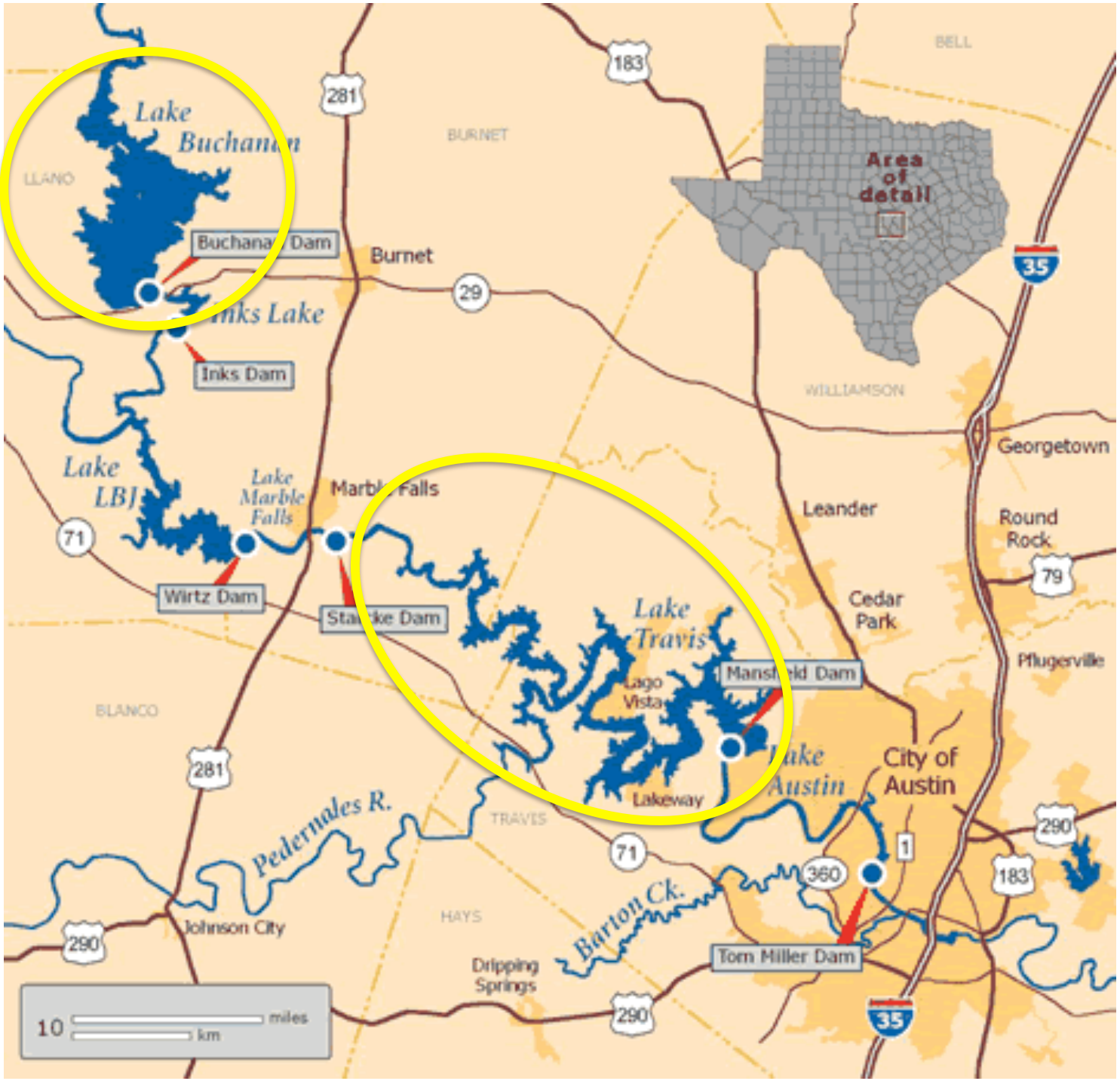
Managing Drought in the Southern Plains Webinar

June 14, 2012

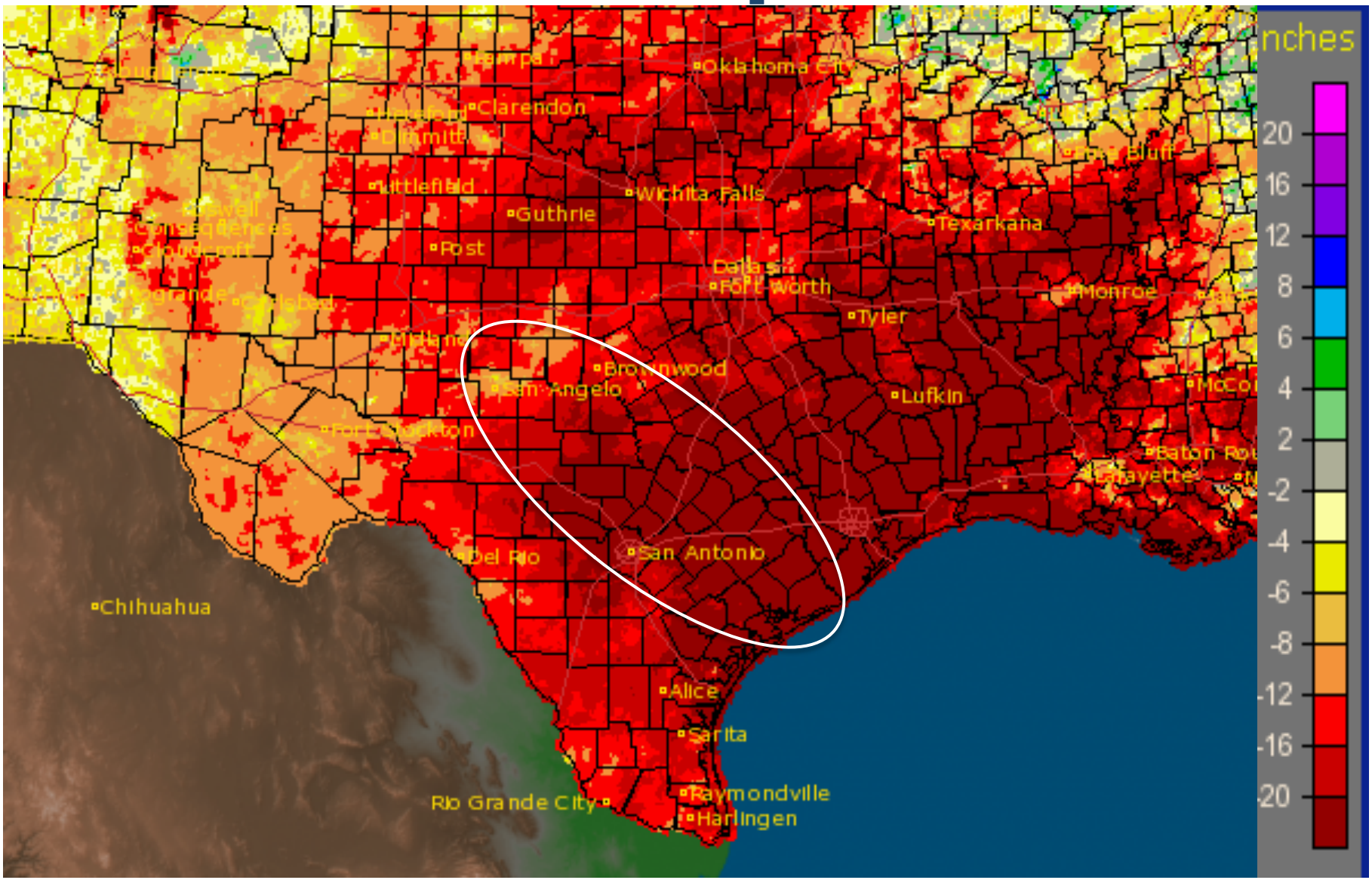
Bob Rose, LCRA Chief Meteorologist

The Lower Colorado River Basin

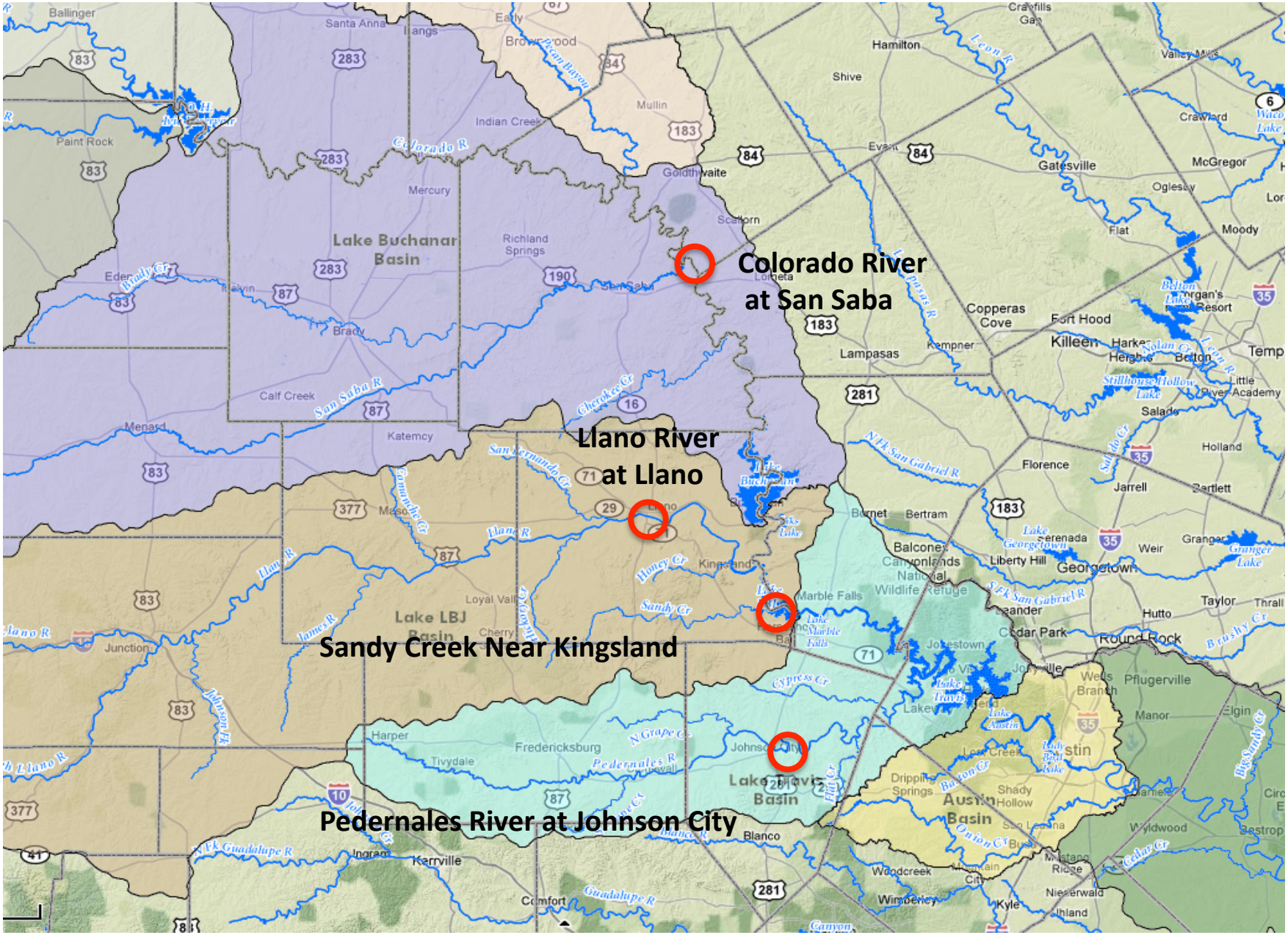



Lake Buchanan
Buchanan Dam
Inks Lake
Inks Dam
Lake LBJ
Lake Marble Falls
Marble Falls
Wirtz Dam
Starcke Dam
Lake Travis
Lago Vista
Mansfield Dam
Lakeway
Lake Austin
City of Austin
Tom Miller Dam
Pedernales R.
Barton Ck.
Johnson City
Dripping Springs
Burnet
Leander
Georgetown
Round Rock
Cedar Park
Pflugerville
Area of detail
LLANO
BURNET
WILLIAMSON
BELL
BLANCO
TRAVIS
HAYS
281
183
29
71
290
35
79
360
1
10
miles
km

Rainfall Departure from Normal
October 2010-September 2011

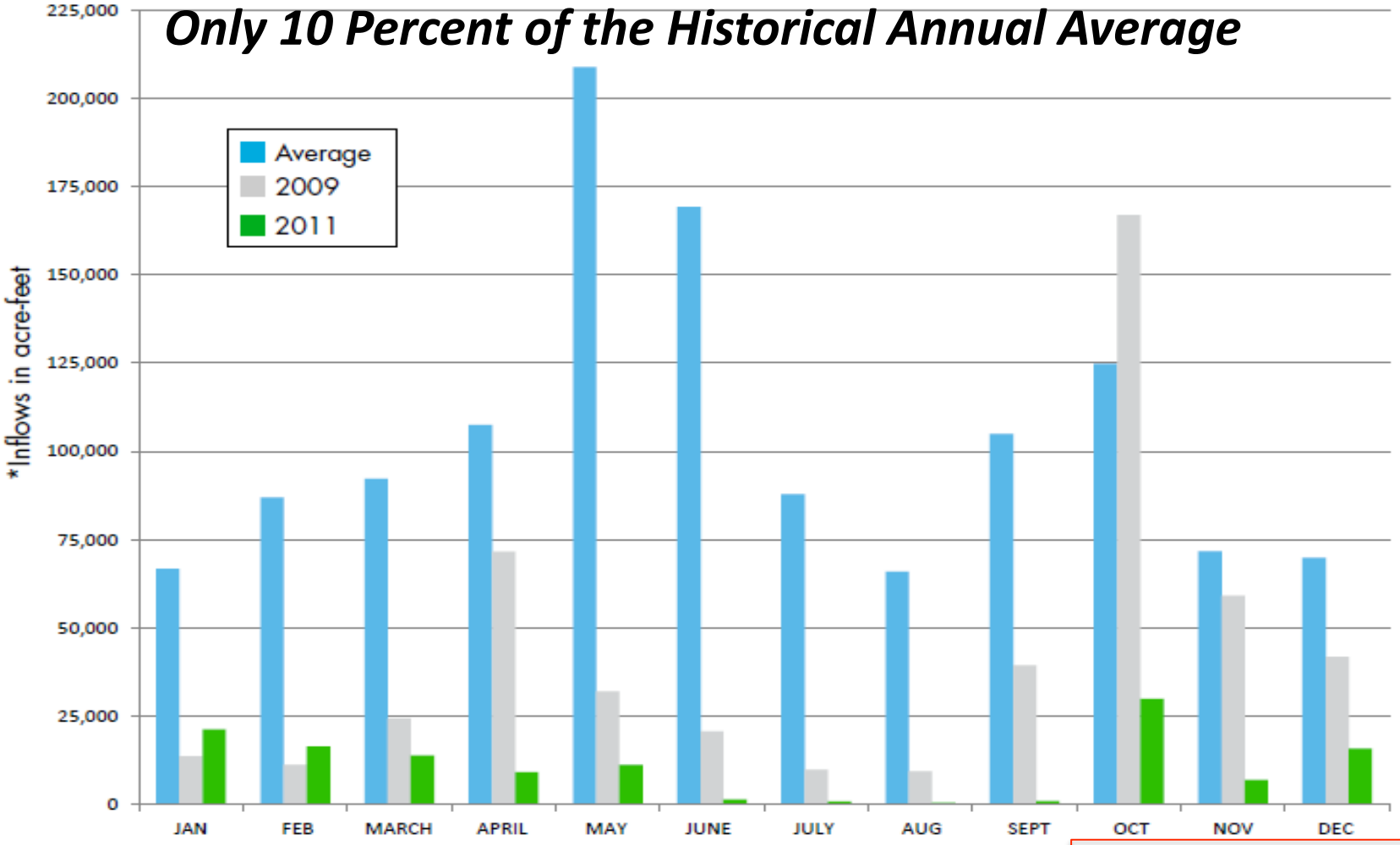


Measuring Inflows



Water flowing into the Highland Lakes

Only 10 Percent of the Historical Annual Average



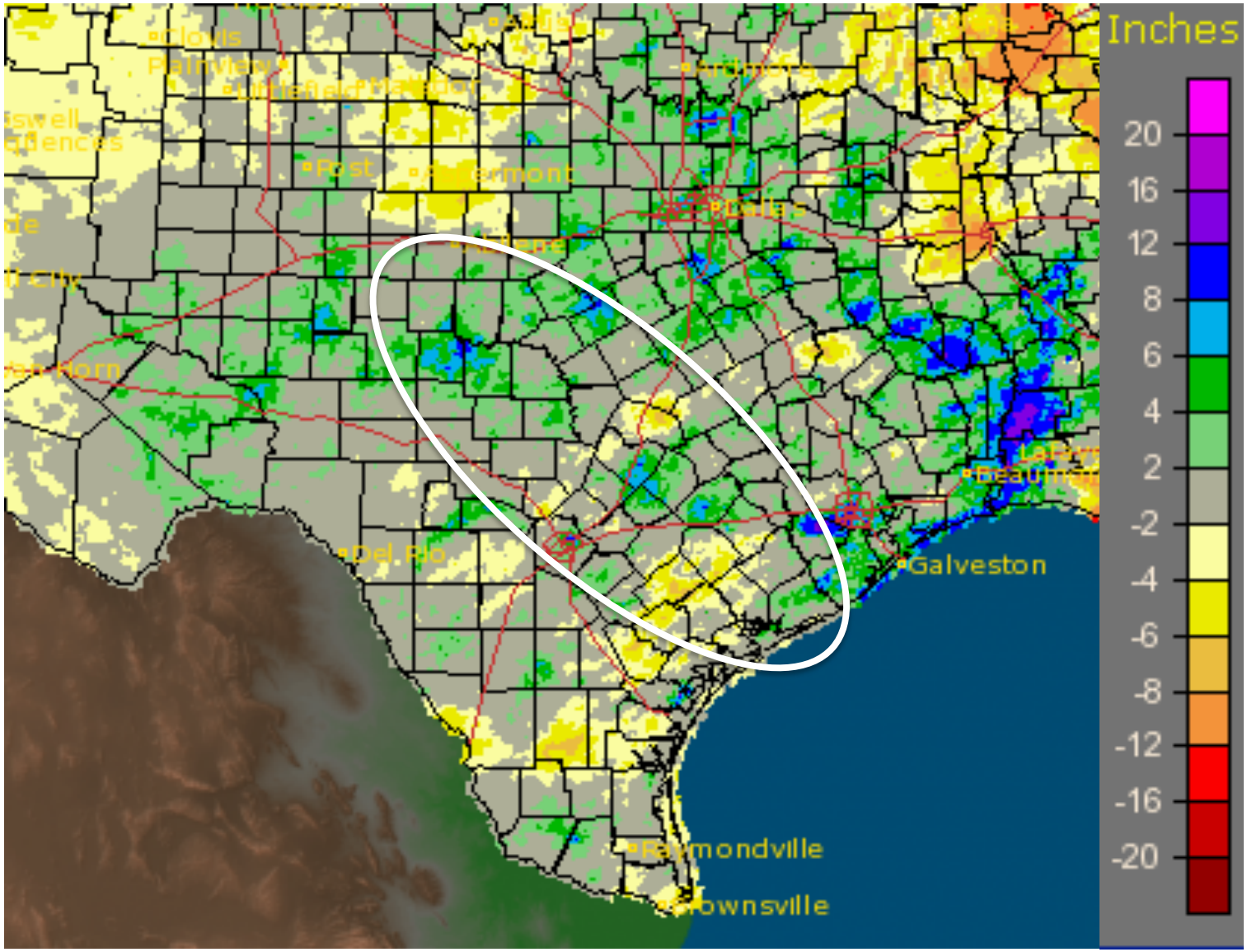
		1,134	720	367	650
		5th	3rd	4th	

*Inflows: the estimated amount of water flowing into the Highland Lakes from rivers and streams.
Data for 2011 are preliminary and subject to change.

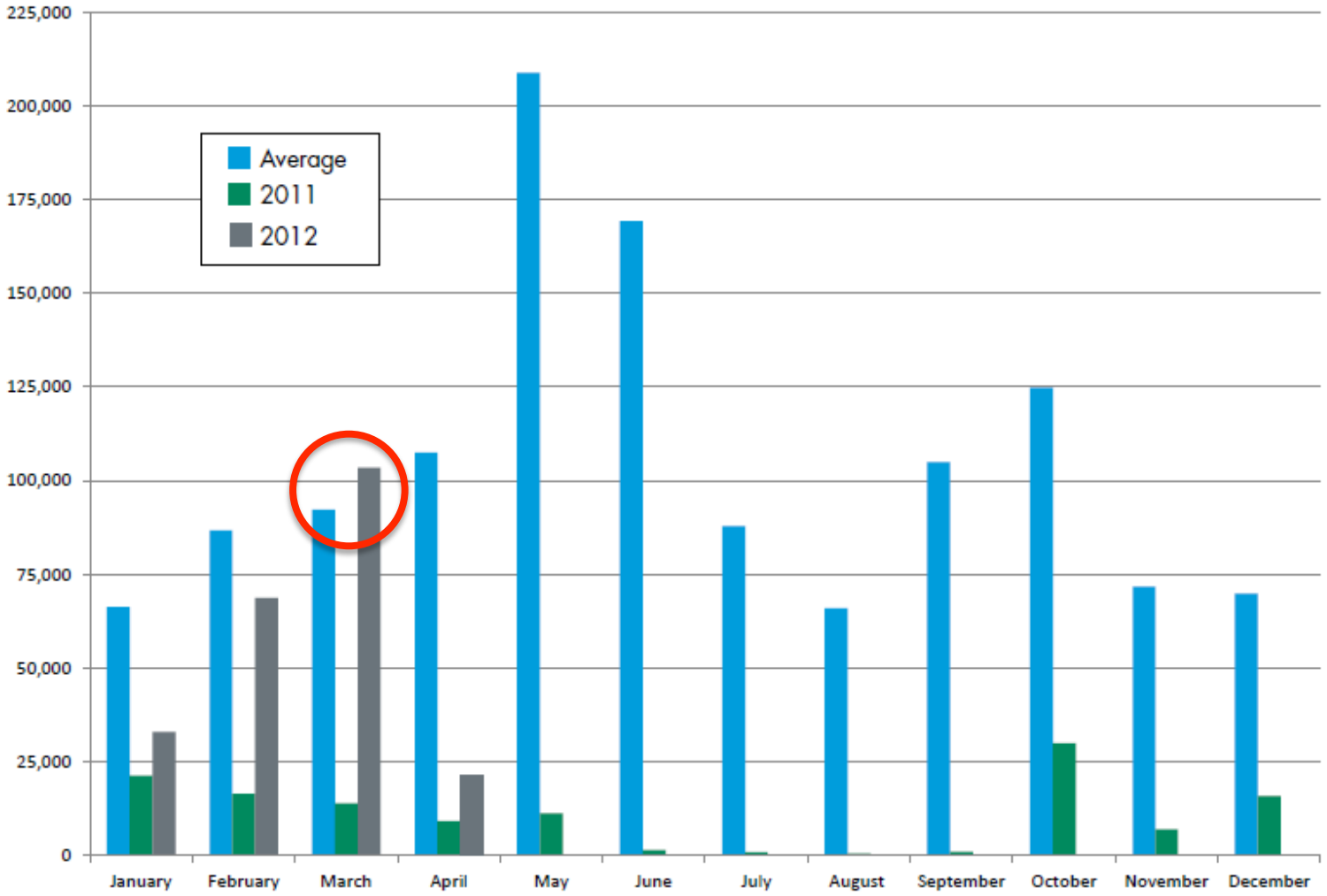
January - December totals (in acre-feet)

Average:	1,256,710
2009:	499,732
2011:	127,699

Rainfall Departure from Normal
Jan. 1-Jun. 12



Water flowing into the Highland Lakes

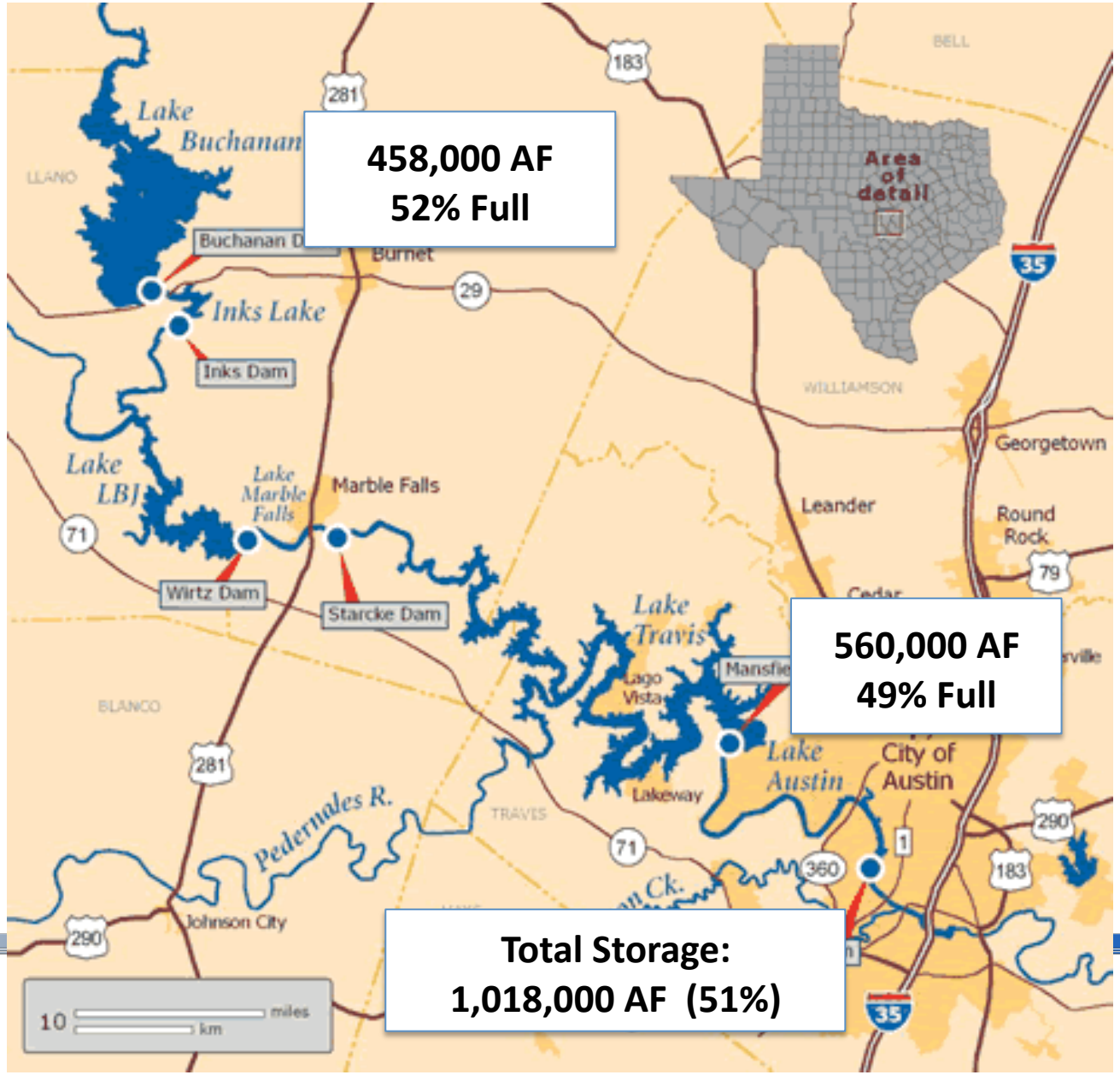


*Inflows: the estimated amount of water flowing into the Highland Lakes from rivers and streams. Data for 2011and 2012 are preliminary and subject to change.

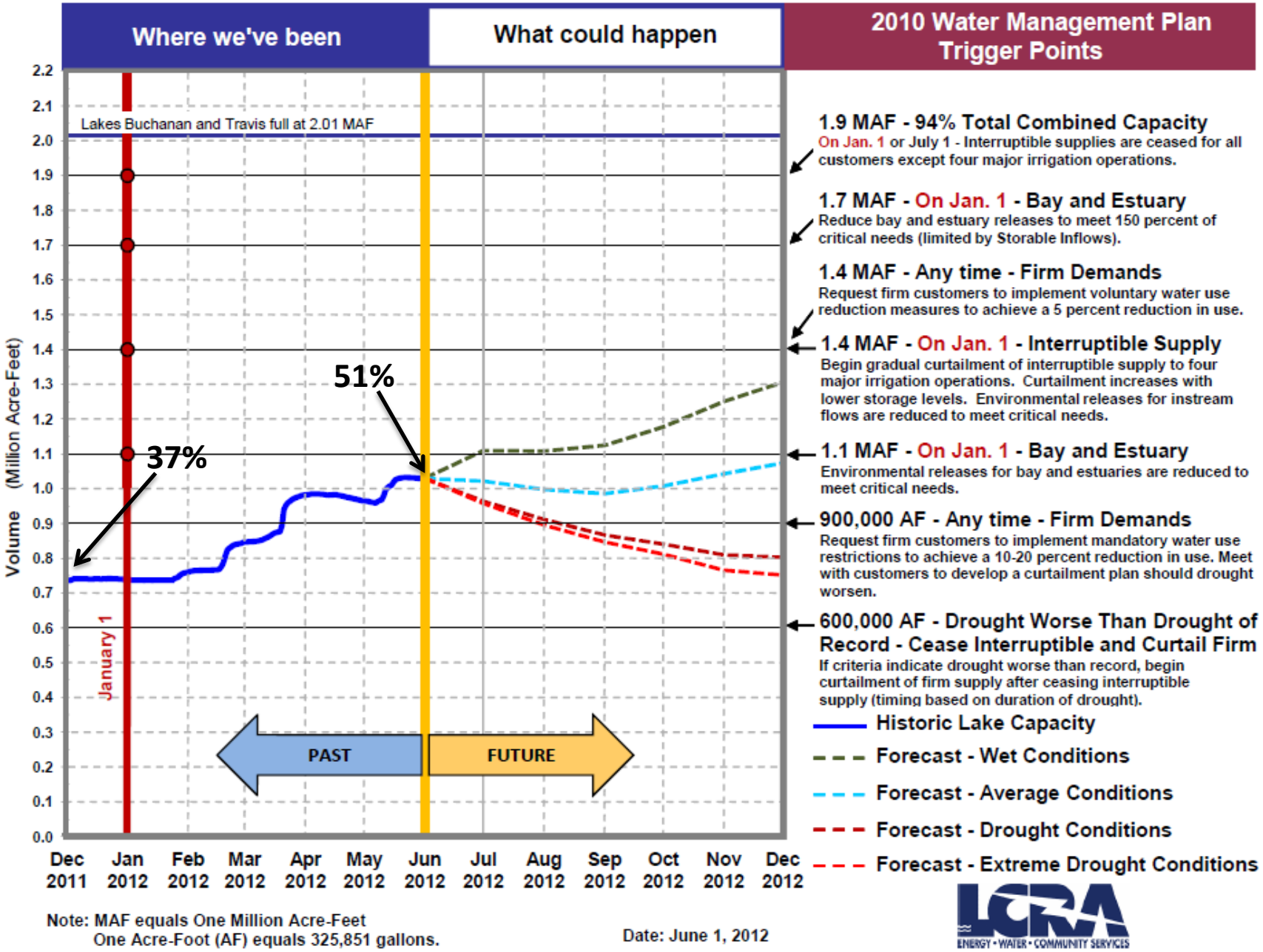
January - April Totals (in acre-feet)

Average:	351,608
2011:	60,450
2012:	224,877

Current Reservoir Levels



Highland Lakes Storage



Note: MAF equals One Million Acre-Feet
One Acre-Foot (AF) equals 325,851 gallons.

Date: June 1, 2012

LCRA
ENERGY • WATER • COMMUNITY SERVICES

No Water for Rice this Year

- Low lake levels and TCEQ relief order has precluded the release of water for rice irrigation this year.
- 5-10% of the national rice and 55-60% of Texas rice is grown in the Lower Colorado river basin.
- First time ever curtailing water for agriculture in LCRA history.
- Water restrictions remain in place for municipal water customers.

Bob Rose

Meteorologist, LCRA

bob.rose@lcra.org

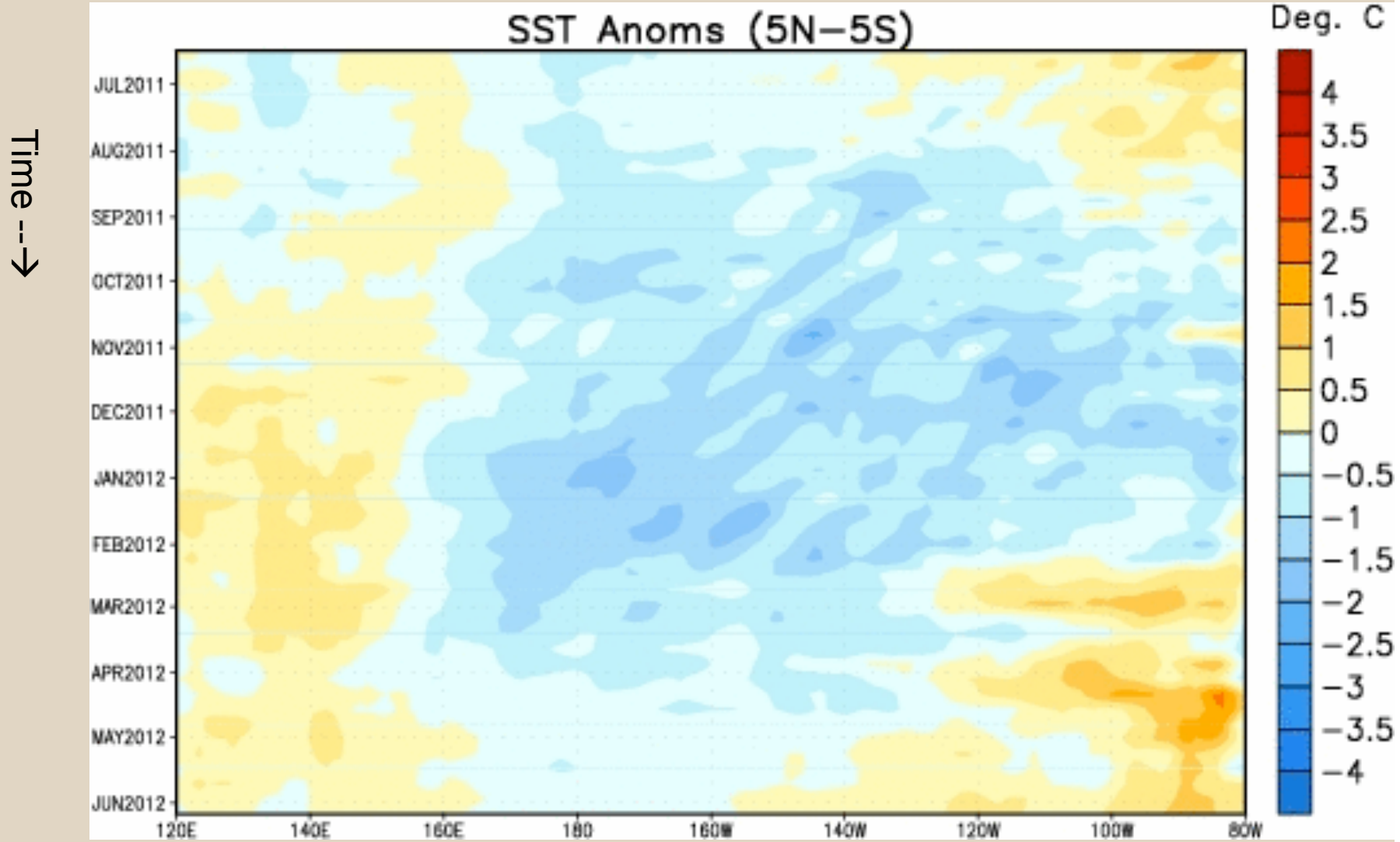
512-473-3350

Ocean Drivers of Drought: Are We Still Behind The 8-Ball?

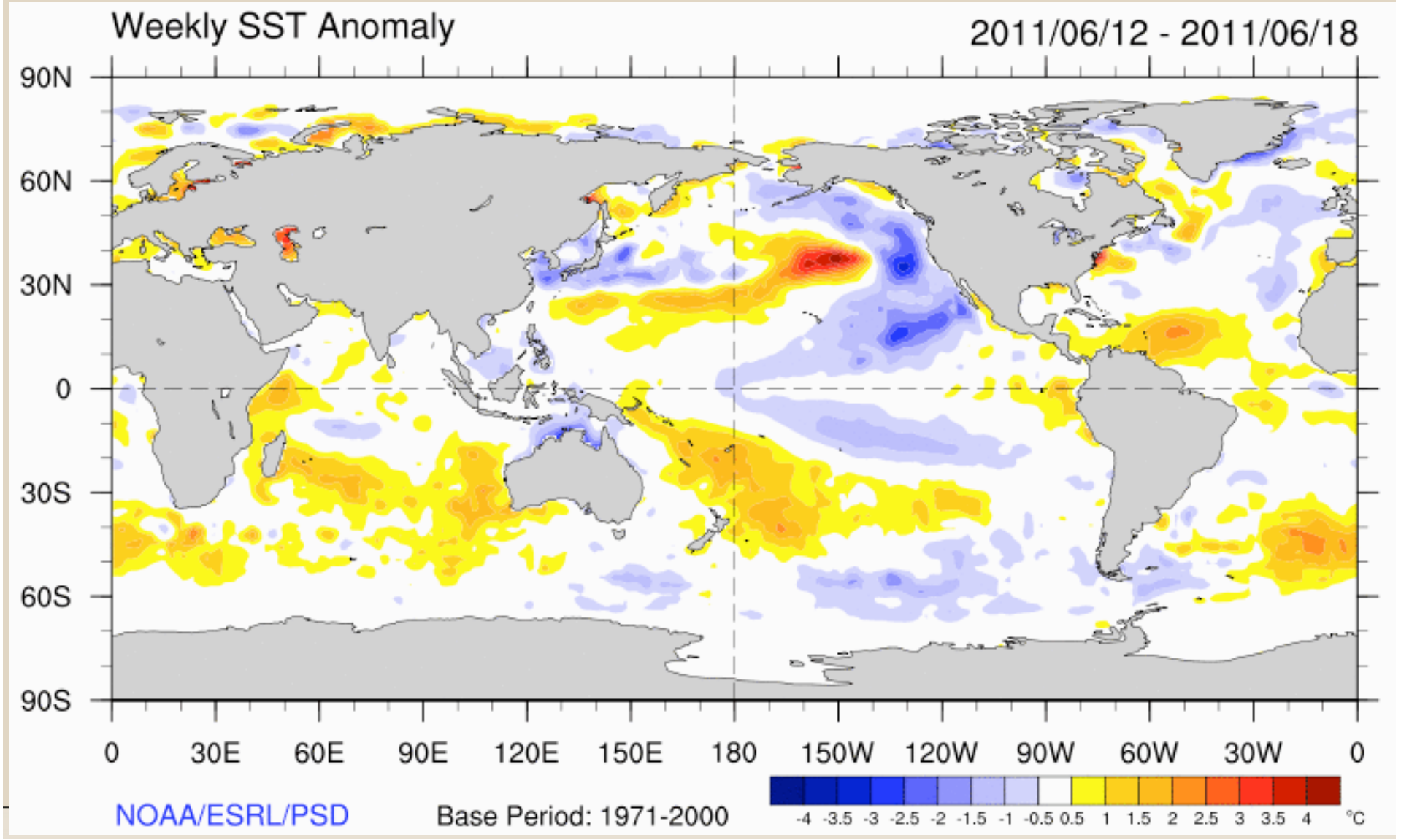
John W. Nielsen-Gammon

Texas State Climatologist

A year of tropical SSTs

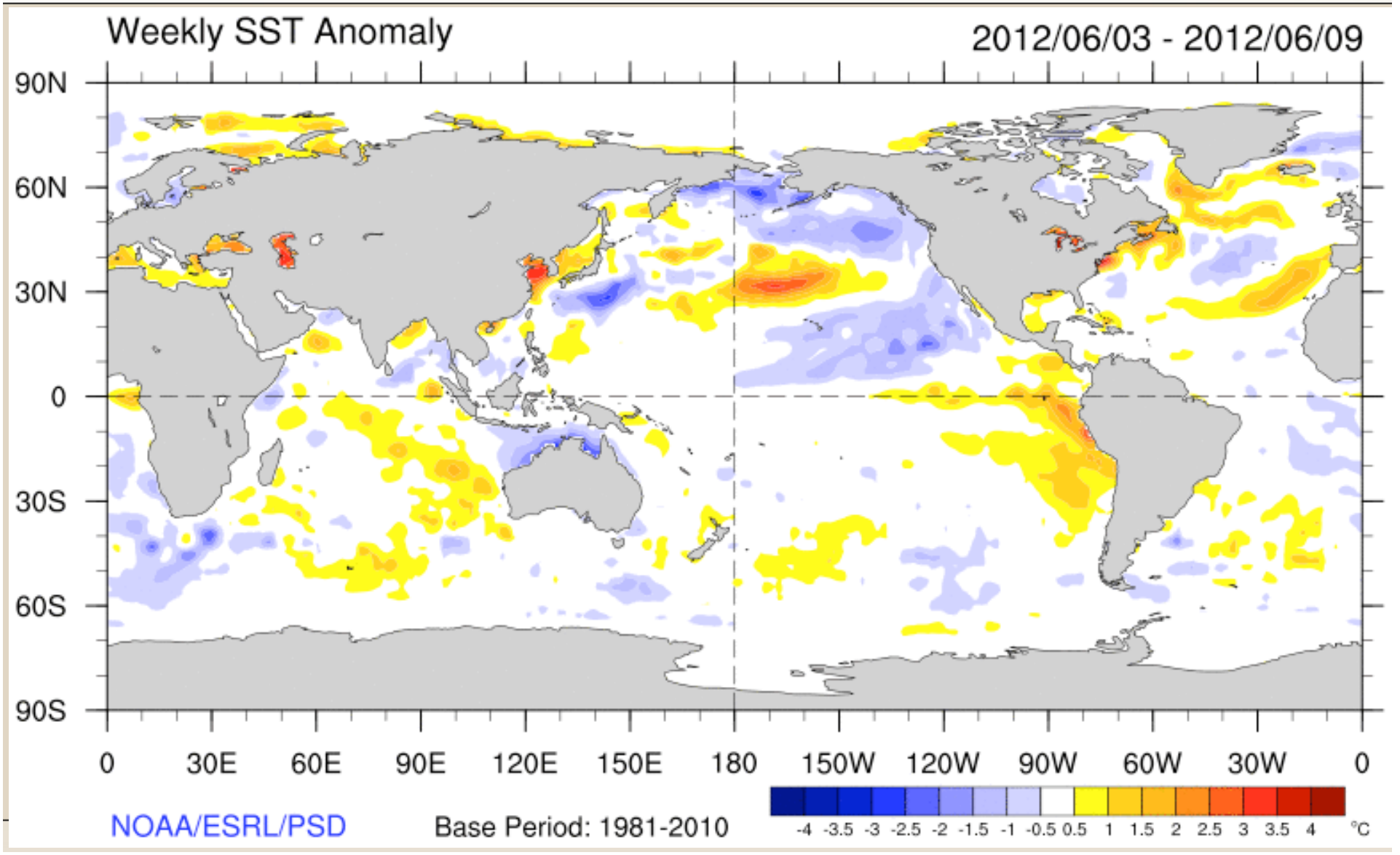


June 2011

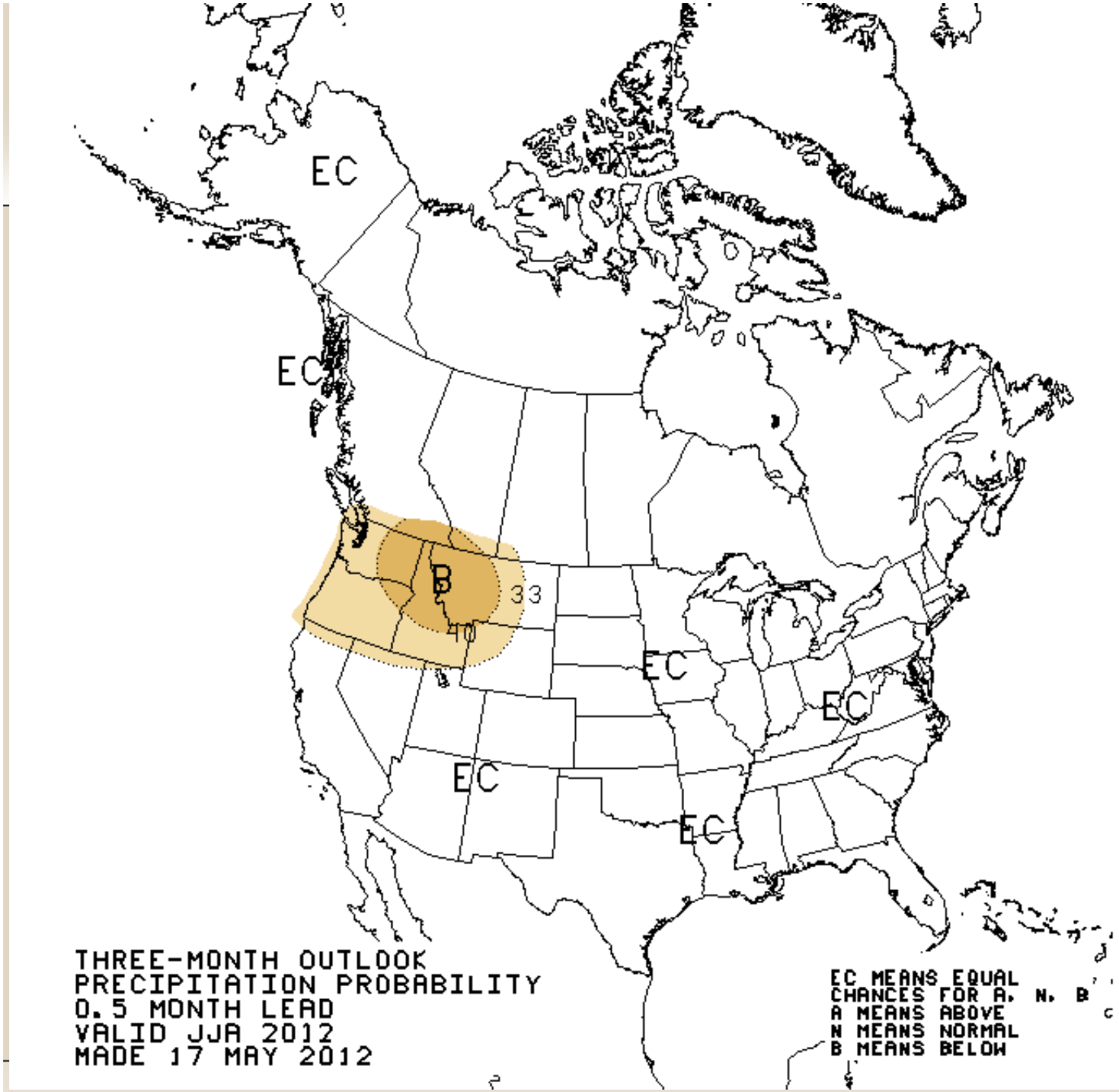

Weekly SST Anomaly
2011/06/12 - 2011/06/18
90N
60N
30N
0
30S
60S
90S
0
30E
60E
90E
120E
150E
180
150W
120W
90W
60W
30W
0
NOAA/ESRL/PSD
Base Period: 1971-2000
-4 -3.5 -3 -2.5 -2 -1.5 -1 -0.5 0.5 1 1.5 2 2.5 3 3.5 4
°C

TEXAS A&M UNIVERSITY

June 2012



TEXAS A&M
UNIVERSITY



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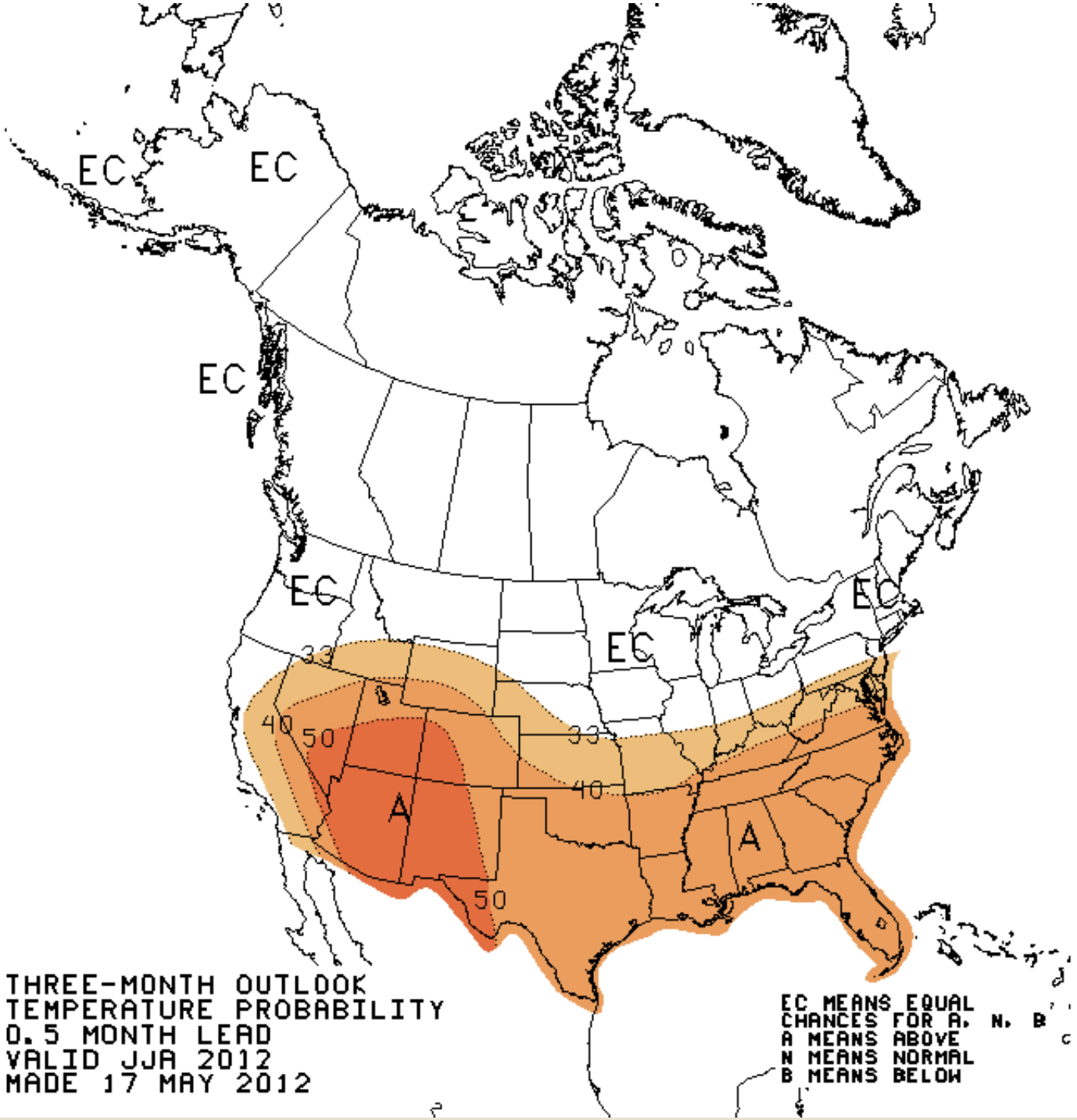

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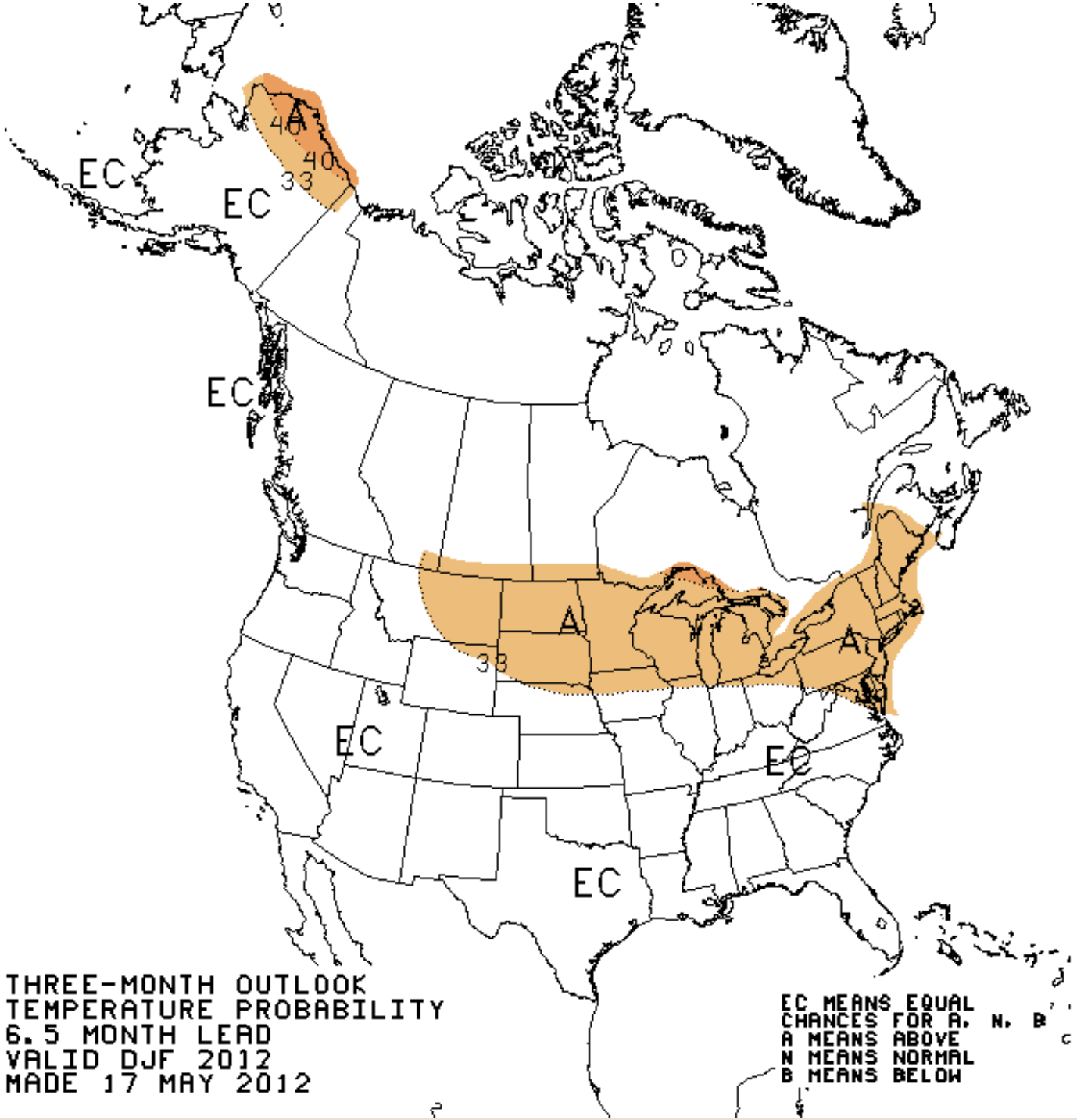
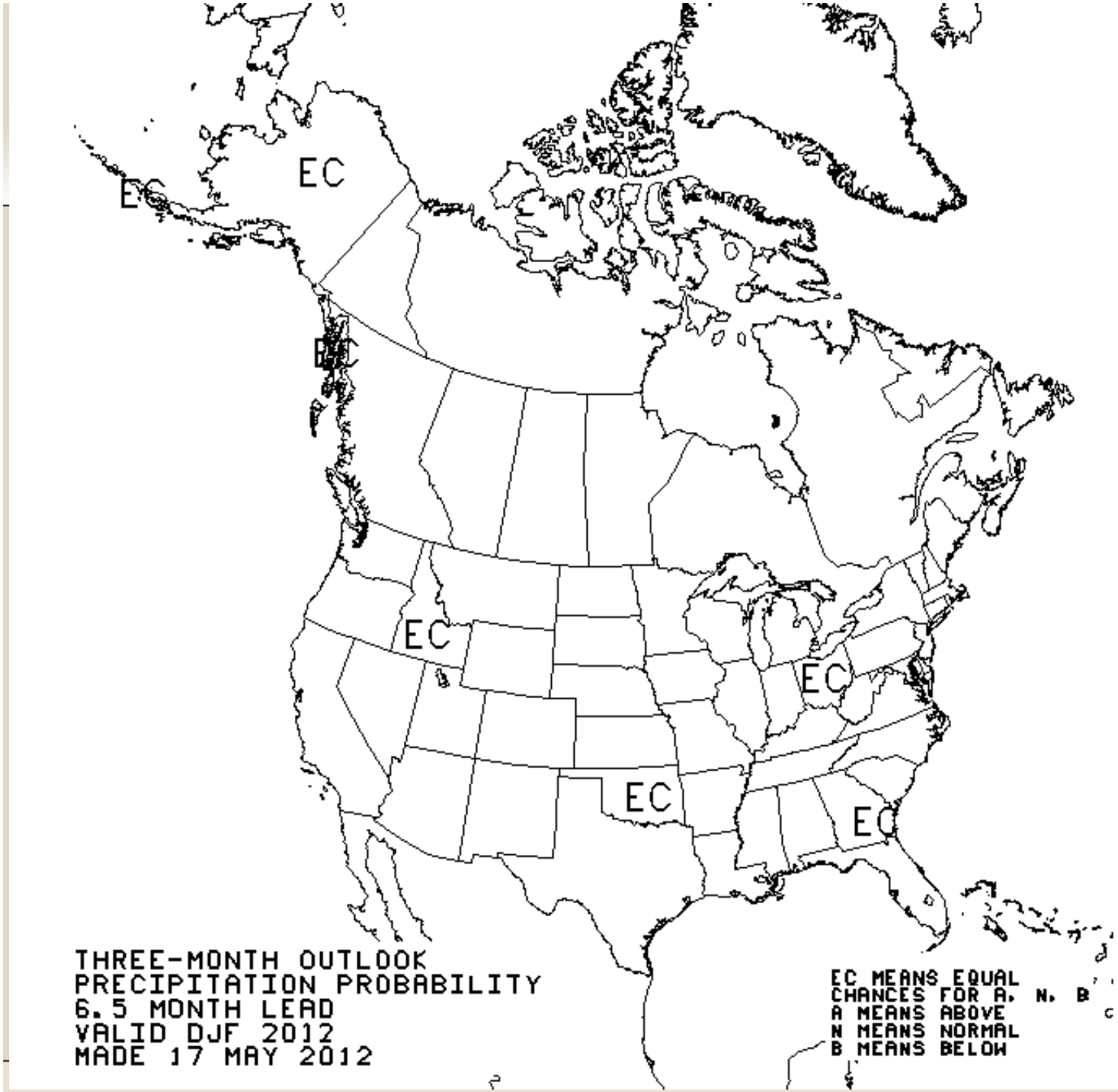


TEXAS A&M
UNIVERSITY



Outlook

- Long-term drought cycle
  - Pacific Decadal Oscillation still unfavorable
  - Atlantic Multidecadal Oscillation still unfavorable
- Short-term drought
  - Some hope for summer
  - More hope for winter

Missouri's "Flash Drought"

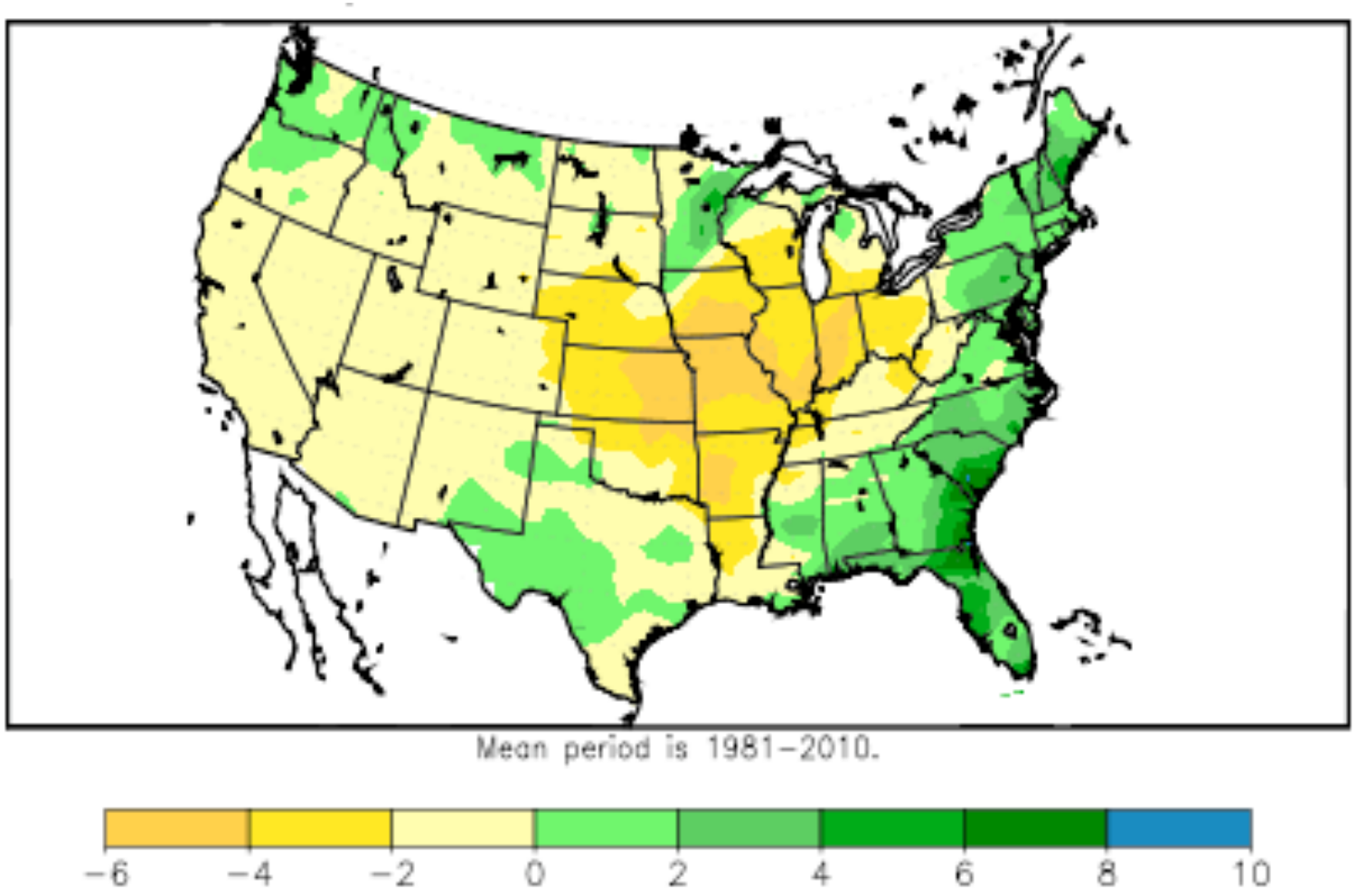
Pat Guinan
Extension/State Climatologist

UNIVERSITY OF MISSOURI
MU Extension
Commercial Agriculture Program

SCIPP Webinar
Thursday, June 14, 2012 @ 11 a.m. CDT

Below normal precipitation…

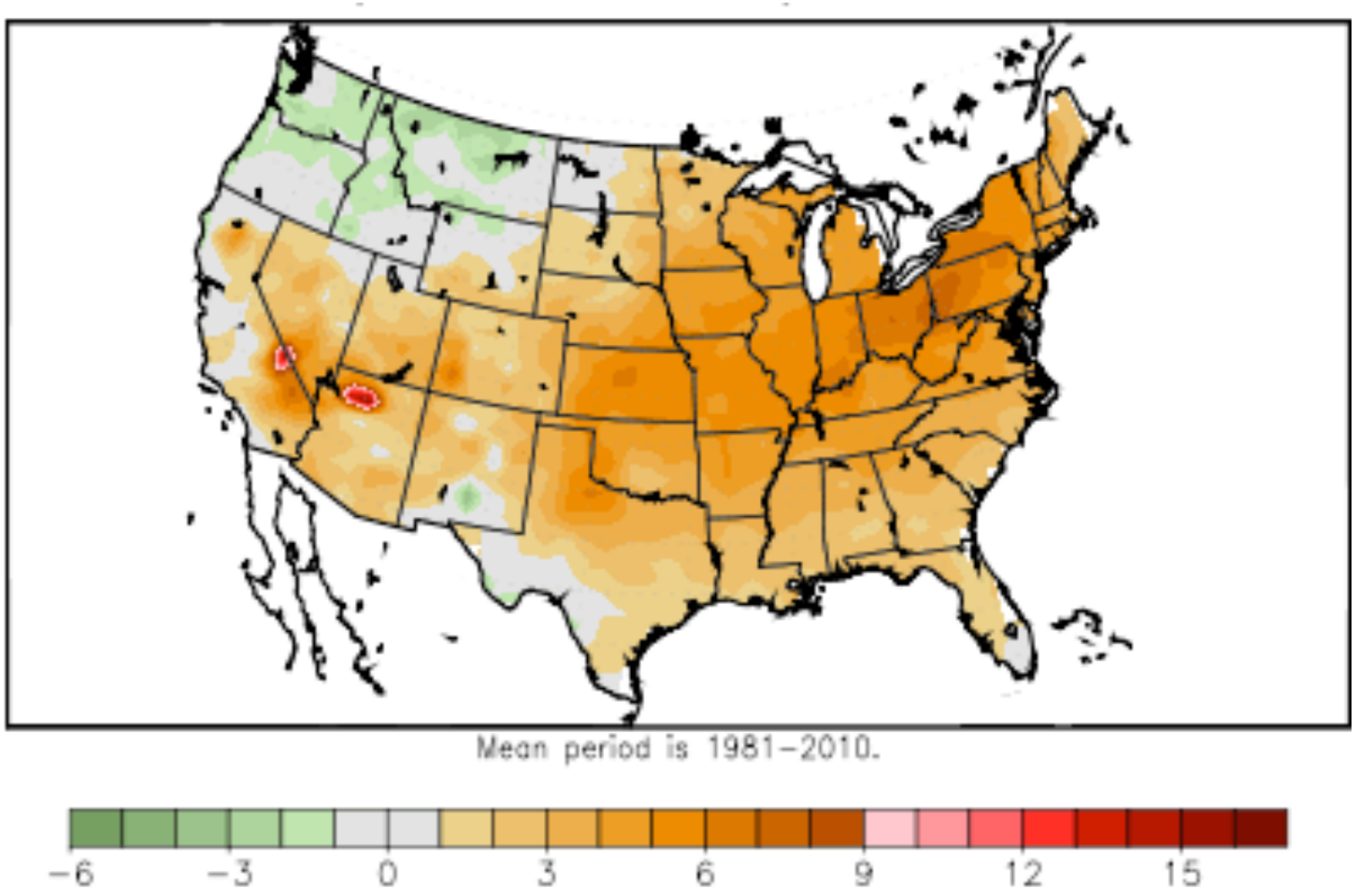
Departure from mean precipitation (in.)
May 8 to Jun 13, 2012



Midwestern Regional Climate Center

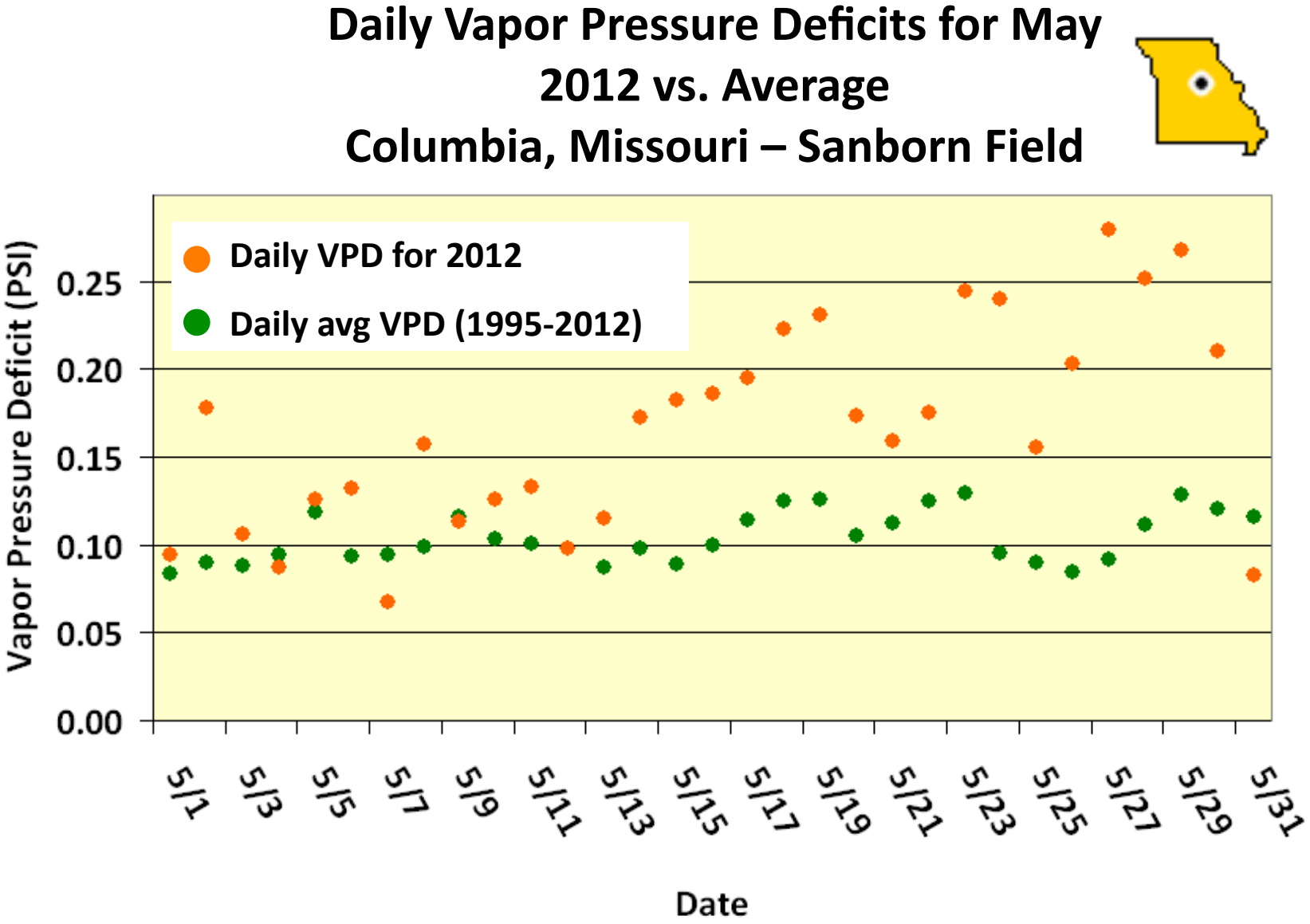
Above normal temperatures…

Departure from mean temperature (°F) May 2012

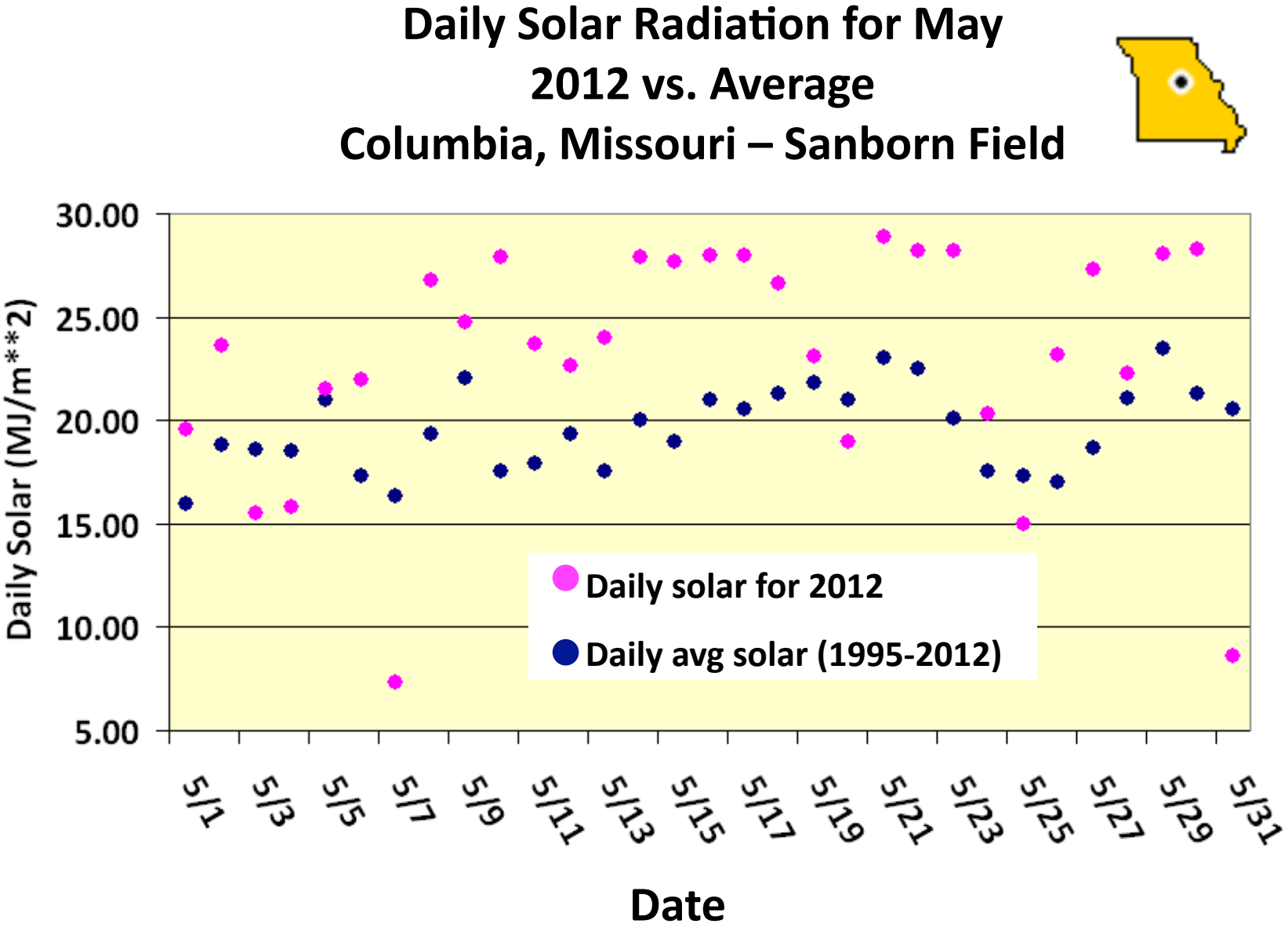


Midwestern Regional Climate Center

Larger than normal vapor pressure deficits…

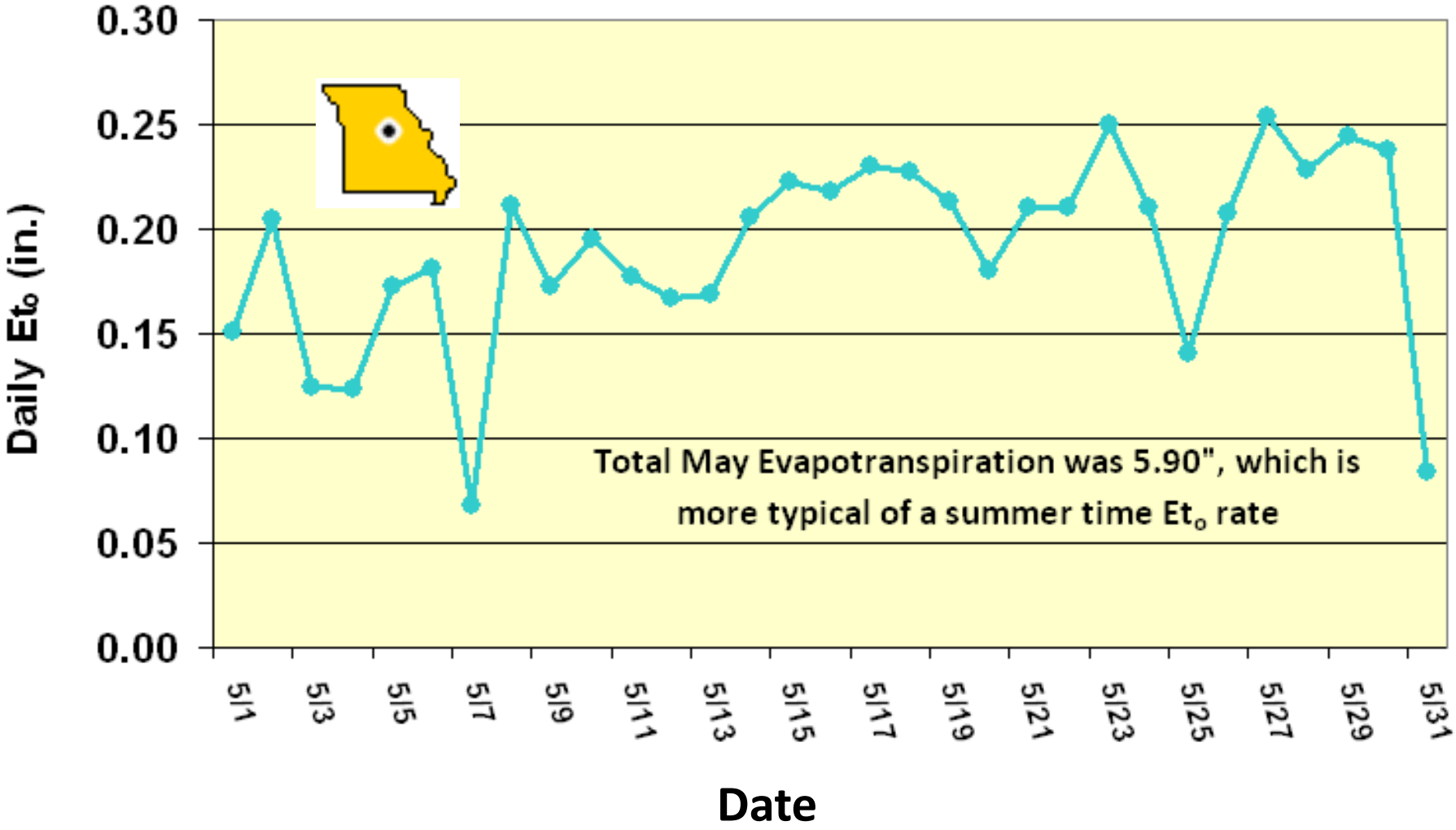


Above normal solar radiation (direct + scattered)…



All these ingredients contributed to above normal ET rates…

Columbia, Missouri Daily Short Crop Evapotranspiration (in.)
May 2012



Other conditions to consider for flash drought evolution…

- Wind speed
- Soil properties: moisture, type, profile etc.
- Time of year (vulnerability), i.e. early developmental stages in spring

Bradford Farm Research Center, Columbia, MO
photos taken on 6/5/2012

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Missourians encouraged to report drought information online

Pat Guinan, University of Missouri Extension climatologist with the Commercial Agriculture Program, wants Missourians to use the Drought Impact Reporter (DIR) as a way to inform decision makers of drought related impacts experienced across the state. The National Drought Mitigation Center (NDMC) in Lincoln, Nebraska has updated the online tool and rolled out a new user friendly version.

"By contributing information via http://droughtreporter.unl.edu/, Missourians can provide additional impact reports to the Drought Monitor authors, who will then use the information in their weekly drought depiction process, "said Guinan.

Guinan is one of many participants who provide information to the authors of the NDMC's weekly Drought Monitor map. At the state level, it is a collaborative effort among state and federal agencies, professionals, the public, and climatologists from neighboring states.

"We do not determine drought categories for Missouri," said Guinan, "but we can provide suggestions, recommendations and impact information on what is happening in our state to the Drought Monitor authors."

Guinan said that there are no limitations on who can provide information or suggestions for depicting drought, or on the level of drought, in an area. "Anybody is welcome to participate with the DIR, the online tool available for private citizens to use," he said.

"In order to contribute impact reports, and provide local expertise to a Drought Monitor author, I highly encourage Missourians to use the Drought Impact Reporter tool. This information is seen by the Drought Monitor author, as well as the general public, and it becomes archived documentation for future authors to refer to," Guinan said.

Kansas Update

Mary Knapp

Kansas State Climatologist

Resources

- U.S. Drought Portal
  - http://www.drought.gov
- Southern Plains Information & Past Webinars
  - http://www.drought.gov/portal/server.pt/community/southern_plains
- Drought Impact Reporter
  - http://droughtreporter.unl.edu/
- State Climatologists
  - http://www.stateclimate.org/
- National Drought Mitigation Center
  - http://drought.unl.edu/
- Southern Climate Impacts Planning Program (SCIPP)
  - http://www.southernclimate.org/
  - Youtube: http://www.youtube.com/user/SCIPP01
- Climate Assessment for the Southwest (CLIMAS)
  - http://www.climas.arizona.edu/

We are now on facebook!
Southern Climate Impacts Planning Program

Is drought properly classified in your region? If not, let us know!

- Drought Impact Reporter
- Contact your State Climatologist
- E-mail the DM Authors: droughtmonitor@unl.edu